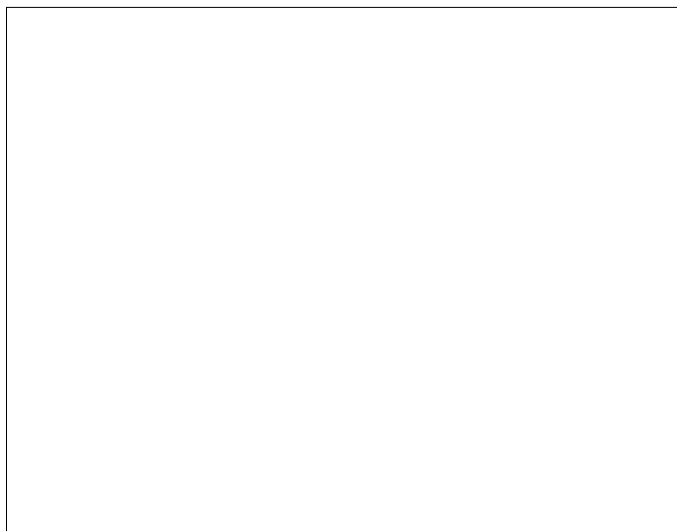


USE AND MAINTENANCE MANUAL

SILENT ELECTRIC ROTARY SCREW COMPRESSORS

AIRBLOK 40-50-60



WARNING: Read this manual carefully and in full before using the compressor.

IMPORTANT INFORMATION

Read all the operational instructions, safety recommendations and all warnings provided in the instruction manual. Most accidents encountered when using the compressor are merely due to the failed observance of basic safety standards.

Accidents are prevented by foreseeing potentially hazardous situations and observing the appropriate safety standards.

The fundamental safety standards are listed in the “SAFETY” section of this manual and also in the section involving the use and maintenance of the compressor.

Hazardous situations to be avoided in order to prevent serious personal injuries and machine damages are listed in the “WARNINGS” section of the instruction manual or are actually printed on the machine.

Never use the compressor improperly but only as recommended by the **Manufacturer**.

The **Manufacturer** reserves the right to up-date the technical information given in this manual without notice.

I Index

0	Foreword	5
0.1	How to read and use the instruction manual	5
0.1.a	Importance of the manual	5
0.1.b	Conserving the manual	5
0.1.c	Consulting the manual	5
0.1.d	Symbols used	6
1	General information	7
1.1	Identification data of the manufacturer and the compressor	7
1.2	Information on machine technical/maintenance service	7
1.3	General safety warnings	7
2	Preliminary machine information	10
2.1	General description	10
2.2	Intended use	10
2.3	Technical data	11
3	Transport, Handling, Storage	12
3.1	Transporting and handling the packed machine	12
3.2	Packing and unpacking	12
3.3	Storing the packed and unpacked compressor	13
4	Installation	14
4.1	Admitted surrounding conditions	14
4.2	Space required for maintenance	14
4.3	Positioning the compressor	15
4.4	Connecting the compressor to the sources of energy and relative inspections .	15
4.4.1	Connecting the compressor to the electrical mains power supply	15
4.4.2	Connecting the dryer to the electrical mains	17
5	Using the compressor	18
5.1	Preparing to use the compressor	18
5.1.1	Operational principle	18
5.2	Controls, indicators and safety devices of the compressor	19
5.2.1	Control panel	19
5.2.2	Auxiliary control devices	19
5.3	Check the efficiency of the safety devices before starting	21
5.4	Starting the compressor	21
5.5	Stopping the compressor	22

6	Compressor maintenance	23
6.1	Instructions relative to inspections and maintenance jobs.	23
6.1.1	Changing the oil	26
6.1.2	Replacing the oil filter cartridge	27
6.1.3	Replacing the filter cartridge of the oil separator	27
6.1.4	Replacing the air filter cartridge	28
6.1.5	Tightening the belt	28
6.1.6	Replacing the belt	28
6.7.7	Cleaning the air/oil radiator	29
6.7.8	Cleaning the dust-removal pre-filter	29
6.1.9	Lubricating the electric motor	29
6.1.10	Grease the bearings of the 60 Hp motor	29
6.2	Diagnosing the alarm status/inconveniences-faults	30
7	Drawings and diagrams	31
7.1	Wiring diagrams	31
7.2	Pneumatic diagrams	32
	Maintenance schedule	

0 Foreword

0.1 How to read and use the instruction manual

0.1.a Importance of the manual

This **INSTRUCTION MANUAL** has been written to guide you through the **INSTALLATION, USE** and **MAINTENANCE** of the compressor purchased.

We recommend that you strictly observe all the indications given within as the ideal operational efficiency and lasting wear of the compressor depend on the correct use and methodical application of the maintenance instructions given hereafter.

Remember that when any doubts or inconveniences arise it is a good rule to always contact the **AUTHORISED SERVICE CENTRES**. They are at your complete disposal for any explanations or jobs required.

The **Manufacturer** therefore declines all liabilities regarding the incorrect use and poor maintenance of the compressor.

The **INSTRUCTION MANUAL** is integral part of the compressor.

Ensure that any up-dates forwarded by the **Manufacturer** are actually added to the manual.

If the compressor is sold on at a later date the manual must be given to the new owner.

0.1.b Conserving the manual

Use and read the manual with care being careful not to damage any part of it.

Do not remove, tear or re-write any parts of the manual for any reason whatsoever.

Keep the manual in a dry and sheltered place.

0.1.c Consulting the manual

This instruction manual is made up of the following:

- **FRONT COVER WITH MACHINE IDENTIFICATION**
- **DETAILED INDEX**
- **INSTRUCTIONS AND/OR NOTES ON THE COMPRESSOR**

The model and serial number of the compressor to which the manual refers and that you have purchased is found on the **FRONT COVER**.

The various **SECTIONS** in which all the notes relative to a certain subject are found in the **INDEX**.

All the **INSTRUCTIONS AND/OR NOTES ON THE COMPRESSOR** aim at pointing out safety warnings and procedures required to use the compressor correctly.

0.1.d Symbols used

The **SYMBOLS** pointed out below are used throughout this manual and their purpose is that of drawing the operator's attention, informing the latter how to behave and how to proceed in each operational situation.



READ THE INSTRUCTION MANUAL

Read the use and maintenance manual carefully before installing and starting the compressor.



GENERAL HAZARDOUS SITUATION

An additional note will point out the type of hazard involved.
Meaning of the indications:

Warning!

This points out a potentially hazardous situation, which if ignored, could cause personal injury and machine damage.

Note!

This enhances crucial information.



RISK OF ELECTRIC SHOCK

Warning: the electrical power supply of the compressor must be disconnected before doing any jobs on the compressor.



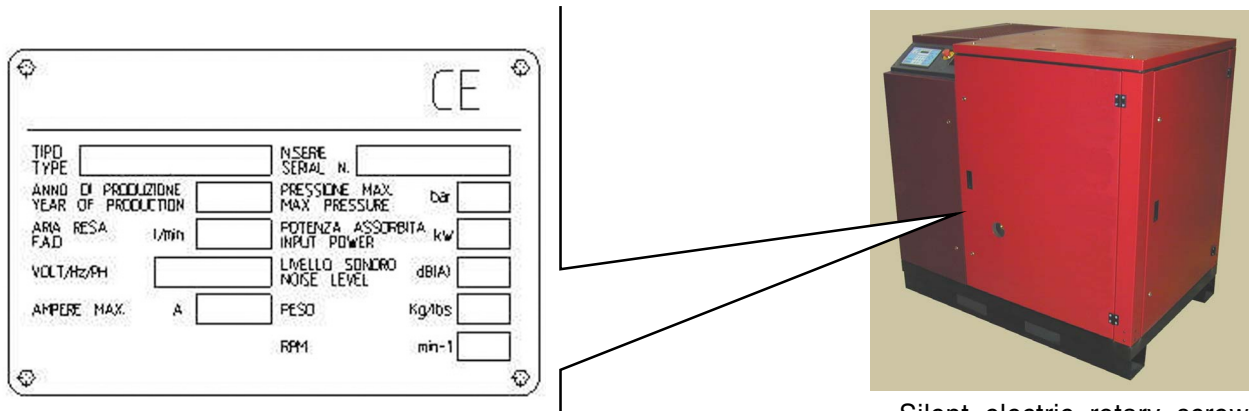
RISK OF SCOLDING

Warning: be careful when touching the compressor as some parts of it could be very hot.

1 General information

1.1 Identification data of the manufacturer and the compressor

COMPRESSOR
IDENTIFICATION
NAMEPLATE (Example)



Silent electric rotary screw compressor.

1.2 Information on machine technical/maintenance service

We remind you that our technical service department is at your complete disposal to help you resolve any problems that may possibly be encountered, or to provide you with any other information necessary.

In the case of need contact:

Our **CUSTOMER TECHNICAL SERVICE** department or your local dealer.

The constant and efficient performance of the compressor is ensured only if original spare parts are used.

We recommend therefore that you strictly observe the indications provided in the MAINTENANCE section and to use **EXCLUSIVELY** original spare parts.

We suggest you visit our website: <http://www.fiac-assistance.com>

The use of NON ORIGINAL spare parts automatically annuls the guarantee.

1.3 General safety warnings

Note! The procedures provided in this manual have been written to assist the operator throughout the use and maintenance of the compressor.



IMPORTANT INSTRUCTIONS FOR THE SAFE USE OF THE COMPRESSOR

WARNING: THE INAPPROPRIATE USE AND POOR MAINTENANCE OF THIS COMPRESSOR MAY CAUSE PHYSICAL INJURY TO THE USER. YOU ARE RECOMMENDED TO CAREFULLY FOLLOW THE INSTRUCTIONS PROVIDED HEREAFter TO AVOID SUCH RISKS.

1. DO NOT TOUCH MOVING PARTS

Never put your hands, fingers or other parts of the body near moving parts of the compressor.

2. NEVER USE THE COMPRESSOR WITHOUT THE SAFETY GUARDS FITTED

Never use the compressor without all the safety guards fitted perfectly in their correct place (i.e. panelling, belt guard, safety valve). If these parts are to be removed for maintenance or servicing purposes, ensure that they are put back in their original place perfectly before using the compressor again.

3. ALWAYS WEAR SAFETY GOGGLES

Always wear goggles or equivalent eye protection means. Never direct compressed air towards any part of your body or that of others.

4. PROTECT YOURSELF AGAINST ELECTRIC SHOCKS

Avoid accidentally touching the metal parts of the compressor with your body, such as pipes, the tank or metal parts connected to earth. Never use the compressor where there is water or in damp rooms.

5. DISCONNECT THE COMPRESSOR

Disconnect the compressor from the electric power supply and completely discharge the pressure from the tank before carrying out any service, inspection, maintenance, cleaning, replacing or inspection jobs of each part.

6. ACCIDENTAL START-UP

Never move the compressor while it is connected to the electrical power supply or when the tank is pressurised. Ensure that the main switch is turned OFF before connecting the compressor to the electrical power supply.

7. STORE THE COMPRESSOR APPROPRIATELY

When the compressor is not in use, it must be stored in a dry room away from atmospheric agents. Keep it out of children's reach.

8. OPERATIONAL AREA

Keep the work area clean and remove any tools that are not required. Keep the work area sufficiently ventilated. Never use the compressor in the presence of flammable liquids or gas. The compressor may produce sparks while running. Do not use the compressor where there may be paints, gasoline, chemical compounds, glues and any other flammable or explosive material.

9. KEEP THE COMPRESSOR OUT OF CHILDREN'S REACH

Prevent children or anyone else from touching the power supply cable of the compressor. All outsiders must be kept at a safe distance from the operational area.

10. WORK CLOTHES

Do not wear unsuitable clothing, ties or jewellery as these may get caught up in moving parts. Wear caps to cover your hair if necessary.

11. PRECAUTIONS FOR THE POWER SUPPLY CABLE

Do not disconnect the power supply plug by pulling on the cable. Keep the cable away from heat, oil and sharp edges. Do not stand on the electrical cable or squash it under heavy weights.

12. LOOK AFTER THE COMPRESSOR WITH CARE

Follow the maintenance instructions. Inspect the power supply cable on a periodic basis and if damaged it must be repaired or replaced by an authorised service centre. Visually check the outside appearance of the compressor, ensuring that there are no visual anomalies. Contact your nearest service centre if necessary.

13. ELECTRICAL EXTENSIONS FOR OUTDOOR USE

When the compressor is used outdoors, use only electrical extensions manufactured for outdoor use and marked as such.

14. WARNING

Pay attention to everything you do. Use your common sense.

Do not use the compressor if you are tired. The compressor must never be used if you are under the effect of alcohol, drugs or medicines, which could make you tired.

15. CHECK FAULTY PARTS OR AIR LEAKS

Before using the compressor again, if a safety guard or other parts are damaged, they must be checked carefully to evaluate whether they may operate as established in complete safety.

Check the alignment of moving parts, hoses, gauges, pressure reducers, pneumatic connections and every other part that may be crucial for the normal operational efficiency of the compressor. All damaged parts must be properly repaired or replaced by an authorised service centre or replaced following the instructions provided in instruction manual.

16. USE THE COMPRESSOR EXCLUSIVELY FOR THE APPLICATIONS SPECIFIED IN THIS INSTRUCTION MANUAL.

The compressor is a machine that produces compressed air.

Never use the compressor for purposes other than those specified in the instruction manual.

17. USE THE COMPRESSOR CORRECTLY

Operate the compressor in compliance with the instructions provided in this manual. Do not allow children to use the compressor or those who are not familiar with it.

18. ENSURE THAT EACH SCREW, BOLT AND GUARD IS FIRMLY SECURED IN PLACE.

19.KEEP THE IN-TAKE GRIDS CLEAN

Keep the motor ventilation grids clean. Regularly clean these grids if the work area is particularly dirty.

20.OPERATE THE COMPRESSOR AT THE RATED VOLTAGE

Operate the compressor at the voltage indicated on the electric data nameplate. If the compressor is used at a higher voltage than that rated, the motor will run faster, thus it could be damaged or could burn-out.

21.NEVER USE THE COMPRESSOR IF IT IS FAULTY

If the compressor is noisy or vibrates excessively when running or it seems to be faulty, stop it immediately and check its efficiency or contact your nearest authorised service centre.

22.DO NOT CLEAN PLASTIC PARTS USING SOLVENTS

Solvents such as gasoline, thinners, gas oil or other compounds that contain hydrocarbons may damage the plastic parts. Clean them with a soft cloth and soapy water or other suitable liquids.

23.USE ORIGINAL SPARE PARTS ONLY

The use of non-original spare parts involves the annulment of the guarantee and the abnormal running conditions of the compressor. Original spare parts are available c/o the authorised dealers.

24.DO NOT MODIFY THE COMPRESSOR

Do not modify the compressor. Contact an authorised service centre for all repairs required. An unauthorised modification may impair the efficiency of the compressor and may also cause serious accidents for those who do not have the technical skill required to make such modifications.

25.TURN THE COMPRESSOR OFF WHEN IT IS NOT IN USE

When the compressor is not in use turn the main ON/OFF switch OFF (position "0").

26.DO NOT TOUCH HOT PARTS OF THE COMPRESSOR

To avoid scolding do not touch pipes, the motor or any other hot part.

27.DO NOT DIRECT THE JET OF AIR DIRECTLY TOWARDS THE BODY

To avoid all risks never direct the jet of air towards people or animals.

28.DO NOT STOP THE COMPRESSOR BY PULLING ON THE POWER SUPPLY CABLE

Use the "O/I" (ON/OFF) switch to stop the compressor.

29.PNEUMATIC CIRCUIT

Use recommended pneumatic hoses and tools that can withstand the same or a higher pressure than the maximum running pressure of the compressor.

30.SPARE PARTS

Use only original and identical spare parts to replace worn or damaged ones.

Repairs must be made exclusively by authorised service centres.

31.CORRECT USE OF THE COMPRESSOR

The operator must be perfectly familiar with all the controls and compressor characteristics before starting to work with the machine.

32.MAINTENANCE JOBS

The use and maintenance jobs of the commercial components fitted on the machine, but not indicated in this manual, are indicated in the enclosed documents.

33.DO NOT UNSCREW THE CONNECTION WHEN THE TANK IS PRESSURISED

Do not unscrew the connection for any reason whatsoever with the tank pressurised without first checking if the tank is discharged.

34.DO NOT MODIFY THE TANK

It is prohibited to intentionally drill, weld or deform the compressed air tank.

35.IF THE COMPRESSOR IS USED FOR PAINTING JOBS

- a) Do not work in closed rooms or near free flames.
- b) Ensure that the room in which you are working is sufficiently ventilated.
- c) Wear face and nose mask.

36.DO NOT PUT OBJECTS OR HANDS INSIDE THE PROTECTION GRID

Do not put objects or hands inside the protection grid to avoid physical and material damages.



KEEP THESE USE AND MAINTENANCE INSTRUCTIONS CAREFULLY AND GIVE THEM TO PERSONNEL WISHING TO USE THE COMPRESSOR!

WE RESERVE THE RIGHT TO MAKE MODIFICATIONS WHERE NECESSARY WITHOUT NOTICE

2 Preliminary machine information

2.1 General description

The **rotary screw compressor** has been specifically designed aiming at minimising maintenance and labour costs.

The outside cabinet is completely covered in sound-proof and oil-proof panelling thus ensuring its extended and lasting wear.

The components have been arranged so that all vital parts can be easily reached for maintenance purposes simply by opening dedicated panels with quick-release locking devices.

The filters and adjustment and safety devices (oil filter, air filter, oil separator filter, regulator valve, minimum pressure valve, max. pressure safety valve, thermostat, belt tightener, screw compression unit, pressure switch and oil separator tank emptying and filling taps) are all fitted on the same side.

Note! **The tanks of the compressors have been manufactured in compliance with the EEC/404/87 Directive for the European market.**
The compressors have been manufactured in compliance with the EC/37/98 Directive for the European market.

Note! **Check your model on the identification nameplate fitted on the compressor. It is also indicated in this manual.**

ADVISED LUBRICANTS

Always use oil for turbines with approximately 46 cSt at 40°C and a pour point of at least -8 +10°C. The flash point must be greater than +200°C.



NEVER MIX DIFFERENT OIL QUALITIES.

SCREW OIL

ESSO	EXXCOLUMB 46
BP	ENERGOL HLP 46
SHELL	CORENA D 46
TOTAL	AZOLLA ZS 46
MOBIL	DTE OIL 25
DUCKHAMS	ZIRCON 46

Use oil with VG32 rating for cold climates and VG68 for tropical climates.
It is advisable to use synthetic oils for very hot and humid climates.

2.2 Intended use

The silent rotary screw compressors have been designed and manufactured exclusively to produce compressed air.
EVERY OTHER USE, DIFFERENT AND NOT FORESEEN BY ALL INDICATED, RELIEVES THE MANUFACTURER OF POSSIBLE CONSEQUENT RISKS.

In any event the use of the compressor different to that agreed in the purchase order **RELIEVES THE MANUFACTURER FROM ALL LIABILITIES WITH REGARD TO POSSIBLE MATERIAL DAMAGE AND PERSONAL INJURY.**

The electrical system is not designed for the use in environments subject to explosion or for flammable products.



NEVER DIRECT THE JET OF AIR TOWARDS PEOPLE OR ANIMALS. NEVER USE THE COMPRESSED AIR PRODUCED BY LUBRICATED COMPRESSORS FOR RESPIRATORY PURPOSES OR IN PRODUCTION PROCESSES WHERE THE AIR IS IN DIRECT CONTACT WITH FOODSTUFFS UNLESS IT HAS BEEN FIRST FILTERED AND CONDITIONED FOR SUCH PURPOSE.



2.3 Technical data

Model		AIRBLOK40			AIRBLOK50			AIRBLOK60		
Max. pressure	bar/psi	8-116	10-145	13-188	8-116	10-145	13-188	8-116	10-145	13-188
Type of rotary screw end		B170	B170	B170	B170	B170	B170	B170	B170	B170
Free air delivery ISO 1217	l/min	4780	4110	3720	5670	5120	4460	6850	6190	5530
	cfm	168,7	145,1	131,3	200,2	180,7	157,4	241,8	218,5	195,2
Air outlet fitting	R	1" ¼ G	1" ¼ G	1" ¼ G	1" ¼ G	1" ¼ G	1" ¼ G	1" ¼ G	1" ¼ G	1" ¼ G
Lubricant qty	l	26	26	26	29	29	29	30	30	30
Fan capacity	m³/h	8200	8200	8200	9000	9000	9000	10000	10000	10000
Oil residue in air	ppm	<3	<3	<3	<3	<3	<3	<3	<3	<3
2-pole electric motor	IEC	MEC200	MEC200	MEC200	MEC200	MEC200	MEC200	MEC225	MEC225	MEC225
Output	HP/kW	40/30	40/30	40/30	50/37	50/37	50/37	60/45	60/45	60/45
Protection rating	IP	54	54	54	54	54	54	54	54	54
Service		S 1	S 1	S 1	S 1	S 1	S 1	S 1	S 1	S 1
Max. starts per hour	N°	10	10	10	10	10	10	10	10	10
Ambient temperature limits	°C (min/max)	5/45	5/45	5/45	5/45	5/45	5/45	5/45	5/45	5/45
Noise level (2000/14/CE)	dB(A)	70	70	70	72	72	72	75	75	75

Sound level measured in a free range at a distance of 1 m: ±3dB(A) at the maximum working pressure.

The sound level may increase by 1 to 10 dB(A) depending on the room in which the compressor is installed.

Note! The technical data and dimensions of the machine are subject to variations at any time without notice

3 Transport, Handling, Storage



In order to use the compressor in complete safety read the safety standards given in section 1.3. before reading this section.

3.1 Transporting and handling the packed machine



The packed compressor must be transported by qualified personnel using a forklift truck.

Before moving the machine ensure that the load-bearing capacity of the forklift truck is sufficient to take the weight to be lifted.

Position the forks exclusively as illustrated below. Once the forks have been positioned in the points indicated, lift slowly without jerking.



Never stand near the area where the compressor is being handled and never stand on the crate while it is being moved.

3.2 Packing and unpacking

To avoid damages and to protect the compressor during transport it is usually placed on a wooden pallet, to which it is secured by screws and covered with cardboard.

All the shipping and handling information and symbols are printed on the compressor packing. Upon consignment remove the top part of the packing and check if any damages have been encountered during transport. If any damages are found, caused during transport, immediately make a written claim, backed up with photos of the damaged parts if possible and forward everything to your insurance company, with copy to the **Manufacturer** and transporter.

Using a forklift truck take the compressor as near as possible to the place where it is to be installed then carefully remove the protective packing without damaging it, following the instructions below:

- Remove the packing **1**, by sliding it away upwards.
- Unscrew screws **2** that block the feet that secure the compressor to the pallet (only for models with tank).



Note! The compressor can be left on the packing pallet to make it easier to move.

Carefully ensure that the contents correspond with all written in the consignment documents. Dispose of the packing in compliance with current standards in force in the country of installation.

Note! The machine must be unpacked by qualified personnel using appropriate tools and equipment.

3.3 Storing the packed and unpacked compressor

For the whole time that the compressor is not used before unpacking it, store it in a dry place at a temperature between +5°C and + 45°C and sheltered away from weather.

For the whole time that the compressor is not used after unpacking it, while waiting to start it up or due to production stoppages, place sheets over it to protect it from dust, which may settle on the components.

The oil is to be replaced and the operational efficiency of the compressor is to be checked if it is not used for long periods.

4 Installation



In order to use the compressor in complete safety read the safety standards given in section 1.3. before reading this section.

4.1 Admitted surrounding conditions

Position the machine as established when the order was placed. Failing this the **Manufacturer** is not liable for any inconveniences that may possibly arise.

Unless pointed out otherwise when placing the order, the compressor must work regularly in the surrounding conditions indicated below:

ROOM TEMPERATURE

The room temperature must not be lower than 5°C or higher than 45°C to ensure the ideal operational efficiency of the compressor.

If the compressor works at a room temperature lower than the minimum value, the condensate could be separated within the circuit and therefore the water would mix with the oil, thus deteriorating the quality of the latter, failing to guarantee the even formation of the lubricating film between the moving parts with the possibility of seizure.

If the compressor works at a room temperature higher than maximum value, the compressor would take in air that is too hot, which would prevent the heat exchanger from adequately cooling the oil in the circuit, raising the working temperature of the machine, thus causing the thermal safety device to trip, which stops the compressor due to an excessive temperature of the air/oil mixture at the screw outlet.

The maximum temperature of the room is to be measured while the compressor is running.

LIGHTING

The compressor has been designed in compliance with legal prescriptions and in the attempt to minimise shadow zones to facilitate the operator's job.

The lighting system of the factory is to be considered as crucial for the operator's safety.

The room in which the compressor is installed must have no shadow zones, dazzling lights or stroboscopic effects due to the lighting.

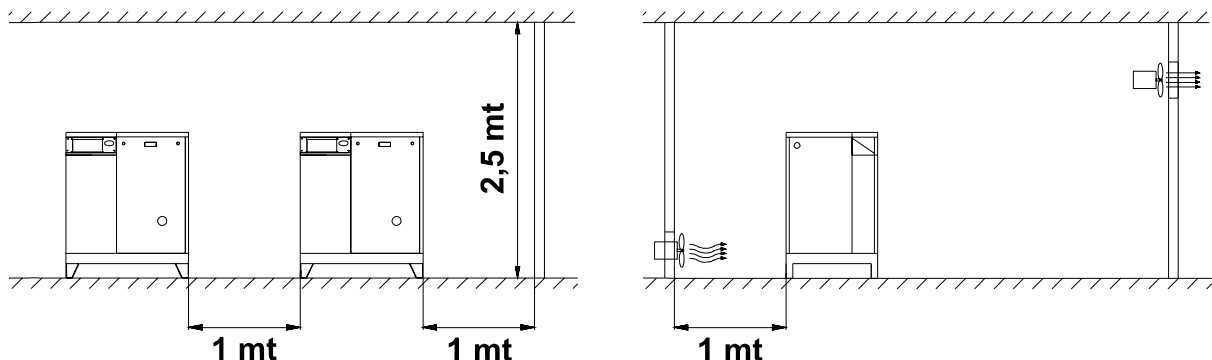
ATMOSPHERE WITH RISK OF EXPLOSION AND/OR FIRE

The standard compressor is not pre-arranged or designed to work in rooms subject to the risk of explosion or fire. The performance of the compressor may decrease at the maximum permitted ambient temperature, with relative humidity higher than 80% and at an altitude of more than 1,000 mt.

4.2 Space required for maintenance

The compressor must be installed in a large room that is well-aired, dust-free and sheltered away from rain and frost. The compressor takes in a large amount of air that is required to ventilate it internally. A dusty atmosphere would in time cause damages and inefficient performance.

Part of the dust once inside is taken in by the air filter causing it to clog rapidly and another part of dust will settle on the components and will be blown against the cooling radiator, consequently compromising the efficiency of the heat exchanger. It is therefore obvious that the cleanliness of the area in which the compressor is installed is crucial for the correct efficiency of the machine, avoiding excessive running and maintenance costs. To facilitate maintenance jobs and to create a favourable circulation of air, the compressor must have a sufficient free space all around it (see fig.).



The room must be provided with outlets that lead outdoors near the floor and ceiling that will allow the natural circulation of air. If this is impossible, some fans or extractors must be fitted to ensure an air flow rate 20% higher than the cooling air flow rate. Minimum recommended fan capacity: 2500 m³/h.

Ducts for the inlet and outlet of the air can be used in unfavourable environments. These ducts must be the same size as the in-take and delivery grid. If these ducts are longer than 3 meters contact the **Authorised Service Centre**.

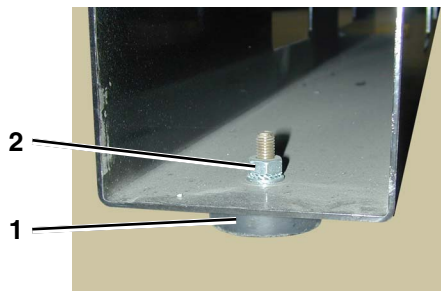
Note! A conveyance system can be fitted to recover the hot ventilation air delivered, which can be used to heat the room or for other purposes. It is crucial that the cross section of the system that recovers the hot air is greater than the total cross section of the grid slots plus the system must be equipped with a forced extraction system (extractor fan) to favour a constant downflow. (minimum cross section 1200 cm²).

4.3 Positioning the compressor

Once the position in which the compressor is to be installed has been identified ensure that the compressor is set on a flat surface.

No special foundations or bases are required for the machine.

Lift the compressor using a forklift truck (forks at least 900 mm long) and fit the vibration-damping feet **1** and block with the nuts **2** under the four resting points where established.



Do not secure the compressor rigidly to the floor.

4.4 Connecting the compressor to the sources of energy and relative inspections.

4.4.1 Connecting the compressor to the electrical mains power supply



The compressor is to be connected to the electrical mains by the customer, to his exclusive liability, employing specialised personnel and in compliance with the Accident Prevention Norms EN 60204.

INSTRUCTIONS FOR CONNECTING TO EARTH

This compressor must be connected to earth while in use in order to safeguard the operator against electrical shocks. The electrical connection must be carried out by a skilled engineer. It is advisable never to dismantle the compressor or even to make any other connections. All repairs must be carried out exclusively by authorised service centres or other qualified centres. The earth wire of the power supply cable of the compressor must be connected only and exclusively to the **PE** pin of the terminal board of the actual compressor. Before replacing the plug of the power supply cable ensure that the earth wire is connected.

EXTENSION CABLE

Use only extension cables with plug and earth connection. Never use damaged or squashed extension cables. Ensure that the extension cable is in a good state of wear. When using an extension cable, ensure

that the cross section of the cable is sufficient to convey the current absorbed by the product to be connected.

If the extension cable is too thin there could be drops in voltage and therefore loss in power and overheating of the equipment. The extension cable of the three-phase compressors must have a cross section in proportion with its length: see table below:

CORRECT CROSS SECTION FOR THE MAXIMIM LENGTH OF 20M

CV	kW	220/240V 50/60 Hz 3 ph	380/415V 50/60 Hz 3 ph
40	30	70 mm ²	25 mm ²
50	37	95 mm ²	35 mm ²
60	45	120 mm ²	50 mm ²



Avoid all risks of electrical shocks. Never use the compressor with damaged electrical cables or extension cables. Regularly check the electrical cables. Never use the compressor in or near water or near a hazardous area where electrical shocks may be encountered

ELECTRICAL CONNECTION

The **three-phase compressors** (L1+L2+L3+PE) must be installed by a qualified engineer. The three-phase compressors are supplied without plug and cable. The power supply cable must be fed into the electrical cabinet through the dedicated cable clamps **1** situated on the left side of the compressor.



Ensure that the cable cannot accidentally come into contact with moving or hot components, possibly secure with clips. The cross section of the wires of the power supply cable (for lengths of 4 m and ambient temperatures of 50°C at the most) must be as follows:

Power Hp	Rated voltage 380/415V	Rated voltage 220/240V
40	25 mm ²	50 mm ²
50	25 mm ²	70 mm ²
60	35 mm ²	95 mm ²

It is advisable to install the connector, magneto thermal switch and fuses near the compressor (3 m away at the most). The magneto thermal switch and the fuses must have the characteristics indicated in the table below:

Power Hp	Rated voltage 380/415V		Rated voltage 220/240V	
	Magneto thermal switch	Fuse	Magneto thermal switch	Fuse
40	100 A	100 A	160 A	160 A
50	125 A	125 A	200 A	200 A
60	125 A	125 A	225 A	225 A

Note!

The fuse parameters indicated in the table above refer to the **gl** type (**standard**). If cartridge fuses type **aM** are used (**delayed**) the parameters in the table are to be reduced by 20%. The parameters of the magneto thermal switches refer to switches type **K**.

Ensure that the installed power in kW is at least double the input of the electric motor. All **silent rotary screw compressors** avail of Star/Delta starting, which enables the motor to start with as little electrical energy consumption upon start-up as possible.

The mains voltage must correspond with that indicated on the electrical data nameplate of the machine; the admitted tolerance must remain within +/- 5%.

EXAMPLE:

Voltage, 400 Volt: minimum tolerance 380 Volt - maximum tolerance 420 Volt

The plug of the power supply cable must never be used as a switch but must be plugged into a power socket that is controlled by an adequate differential switch (magneto thermal switch).



Never use the earth connection instead of the neutral. The earth connection must be achieved according to the EN 60204 industrial safety standards.

Ensure that the mains voltage corresponds with that required for the correct operation of the compressor.

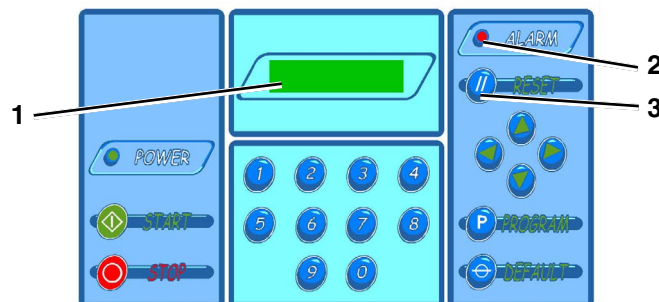
CHECK THE ROTATION DIRECTION

When connecting the compressor to the electrical mains for the first time ensure that the STOP ALARM is not triggered, which is pointed out by the red LED lit steady, by a buzzer and by a warning on the display 1 stating: **ROTATION ALARM**.

This alarm points out the incorrect connection order of the electrical power supply cables (relative to the three phases) that causes the incorrect rotation direction of the screw unit. Once the cable connection has been rectified press the RESET key 3.

Warning!

The incorrect rotation direction for more than 20 seconds will irreparably damage the compressor.



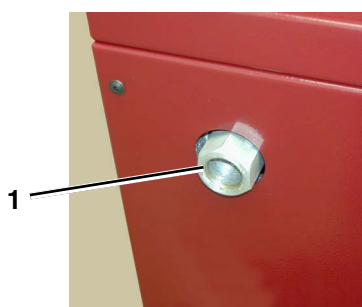
4.4.2 Connecting to the pneumatic mains



Always use pneumatic hoses for compressed air with the maximum pressure characteristics and cross section suitable for those of the compressor.

Do not try to repair a faulty hose.

Connect the compressor to the pneumatic mains using the fitting **1** pre-arranged on the compressor. Use hosing with a greater or same diameter as the compressor outlet. Install two ball taps with capacity suitable for the compressor between the compressor and tank and between the tank and line. Do not install non-return valves between compressor and tank. The non-return valve is already installed inside the compressor.



5 Using the compressor



In order to use the compressor in complete safety read the safety standards given in section 1.3. before reading this section.

5.1 Preparing to use the compressor

5.1.1 Operational principle

The air taken-in by the filter passes through a valve that controls its flow rate to the screw where, mixing with the oil, it is compressed.

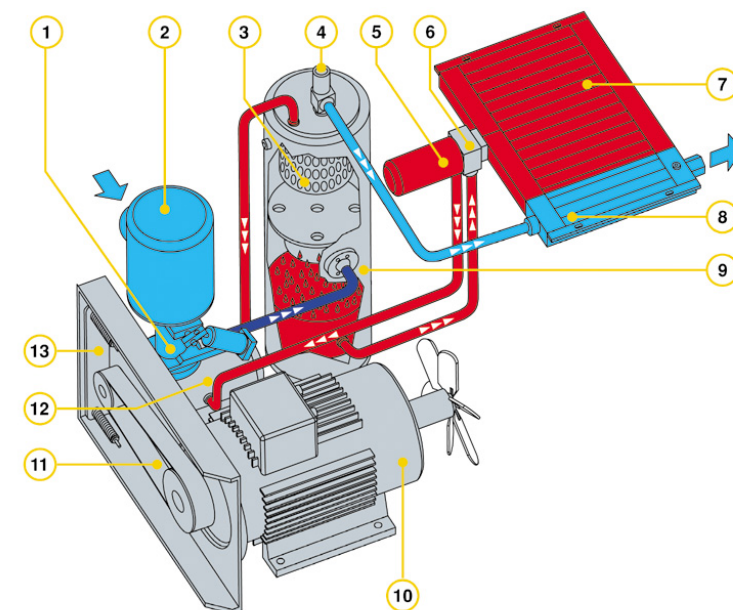
The air/oil mix produced by compression reaches a tank where the initial separation by gravity is achieved; as the oil is heavier, it settles on the bottom, it is then cooled and sent through a heat exchanger, filtered and injected into the screw again.

The oil is required to reduce the heat produced by compression, to lubricate the bearings and to maintain the coupling of the screw lobes. The air is sent through an oil separator filter to be additionally purified from residue oil particles. It is cooled by means of another heat exchanger and is finally outlet to be used at low temperature and with acceptable water and oil residues (-3p.p.m.). A safety system controls the crucial points of the machine and points out any abnormal conditions. The temperature of the air/oil mix at the screw outlet is controlled by a thermostatic probe, which stops the compressor if the temperature is too high (105°C).

A thermal protection device is fitted on the electric motor, which stops the machine if necessary.

Principio di funzionamento

Operating diagram



■ Aria-Olio
Air-Oil
■ Olio
Oil
■ Aria
Air

- | | |
|---|--|
| <p>1 Valvola aspirazione
Suction valve</p> <p>2 Filtro aria
Air filter</p> <p>3 Filtro separatore
Oil separator</p> <p>4 Valvola pressione minima
Minimum pressure valve</p> <p>5 Filtro olio
Oil filter</p> <p>6 Valvola termostatica
Thermostatic valve</p> <p>7 Radiatore olio
Oil radiator</p> <p>8 Radiatore aria
Air radiator</p> <p>9 Serbatoio disoleatore
Separator tank</p> <p>10 Motore elettrico
Electric motor</p> | <p>11 Cinghia di trasmissione
Transmission belt</p> <p>12 Gruppo vite
Air end</p> <p>13 Tensionatore autom. cinghia
Automatic belt tensioner</p> |
|---|--|

5.2 Controls, indicators and safety devices of the compressor

5.2.1 Control panel

The control panel is made up of a set of buttons required for the main operational and control functions of the compressor.

1 GREEN LED

This points out that the compressor is powered.

2 START (I)

This button is used to turn the compressor on.

3 STOP (O)

This button is used to turn the compressor off.

4 PUSH BUTTON CONTROL PANEL

This is used to program the compressor.

5 DEFAULT

Compressor programming is exited by pressing this push button.

6 PROGRAM

Programming is enabled by pressing this push button.

7 MENU SCROLLING PUSH BUTTON

These four push buttons are used to scroll the menus displayed.

8 RESET

Any procedure being performed is cancelled by pressing this push button.

9 RED LED

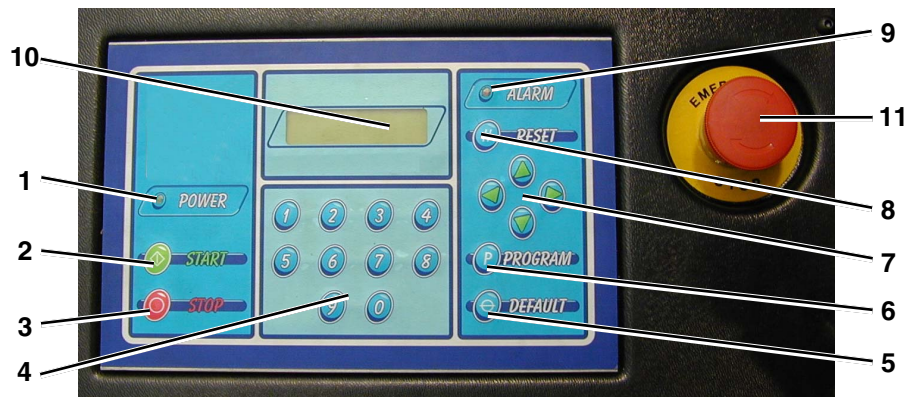
This points out that an alarm has tripped.

10 DIGITAL DISPLAY

The various menus are displayed and the parameters are monitored in this display.

11 EMERGENCY PUSH BUTTON

This mechanically blocking push button is used to immediately stop the compressor in the case of emergency. With the push button blocked it is impossible to start the compressor. To be able to start the compressor again, turn and pull the emergency push button up then press the **RESET** button.



5.2.2 Auxiliary control devices

1 AIR CIRCUIT PRESSURE CONTROL GAUGE

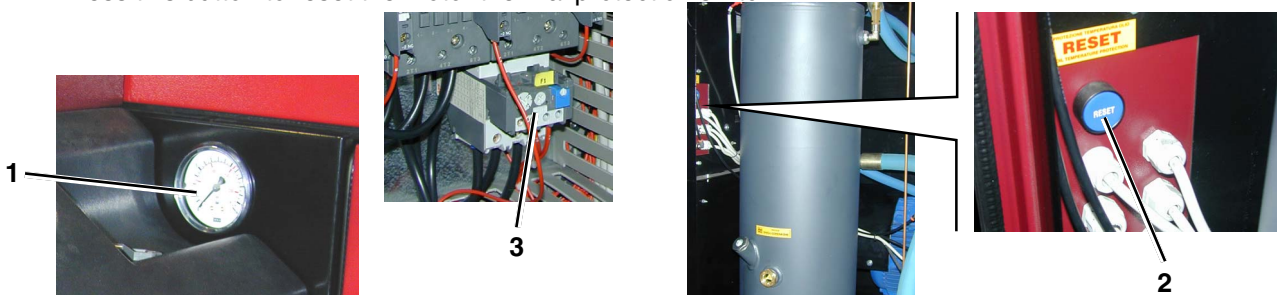
2 OIL THERMAL PROTECTION SWITCH RESET BUTTON

This is positioned on the side of the electrical cabinet inside the compressor. Press this button to reset the oil thermal protection switch.

3 MOTOR THERMAL PROTECTION SWITCH RESET BUTTON

This is positioned inside the electrical cabinet.

Press this button to reset the motor thermal protection switch.



CHECKING THE SETTINGS ON THE CONTROL PANEL

When the compressor is ready “**PRESS START TO START**” appears on the display. The general settings of the control unit can be checked using the MENU SCROLLING PUSH BUTTONS and the following will appear on the display: “**AL TEMPERATURE (105°)**”, “**TYPE OF SENSOR (17.8)**”, “**SELECT LANGUAGE (0-4) (I)**”, “**SELECT PSI/BAR 2/1 (BAR)**”, “**SELECT FAHR./CELS 2/1 (CELS)**”, “**C.R. (2/1) (Y/N) (NO)**”, “**ALARM PRESSURE (10.5)**”, “**STAR-DELTA T (4)**”, “**IDLE RUN T (240)**”, “**SET-UP CLI.P.MAX (10.0)**”, “**SETUP CLI.MIN(8-0)**”, “**MAINTENANCE T (3000)**”, “**TEMPER.ALARM NO. 2**”, “**PRESSURE ALARM NO. 0**”, “**THERM.PROT.ALARM NO. 1**”, “**RUNNING HOURS (150)**”, “**HOURS OF COMPRESSION (100)**”.

Note! Refer to the menu descriptions for the meaning of the parameters indicated above.

Press the DEFAULT key to exit this function.

The total running hours (**R.H**), the hours of compression (**H.C.**) and the time left to the next maintenance interval (**MAINT.**) can be displayed for a few seconds by pressing the left and right arrow keys together at the same time.

MENUS THAT CAN BE ACCESSED BY THE CUSTOMER:

PASSWORD	MENU	TO ACCESS	TO EXIT
“12”	AUTO TEST	Keys 1 and 2 pressed together	STOP (O) Key
“92”	CUSTOMER	Keys 9 and 2 pressed together	DEFAULT Key

AUTO-TEST MENU (12)

To enter the Auto-test menu press keys 1 and 2 of the PUSH BUTTON CONTROL PANEL together at the same time.

The Auto-test function automatically checks the electrical connections of the machine. “**TEST RUNNING, PRESS STOP TO EXIT**” appears on the display.

To exit from the Auto-test function press the STOP push button as indicated on the display.

CUSTOMER MENU (92)

To enter the Customer menu press keys 9 and 2 of the PUSH BUTTON CONTROL PANEL together at the same time.

The Customer menu is used to calibrate the following parameters:

- Cut-in pressure (min.P) of the compressor
- Cut-off pressure (max.P) of the compressor
- Idle running Time.

To scroll the parameters shown on the display use the arrow keys to scroll the menus and press the DEFAULT key to exit.

To modify the **min.P** value enter the new value in decimals, without comma, then press PROGRAM (i.e. to set 7,5 bar, type-in 75).

To modify the **max.P** value enter the new value in decimals, without comma, then press PROGRAM.

Note!: **Max.P must be at least 0.5 bar/7.2 psi less than the alarm P.**
Max.P - min. P must be higher than or equal to 1 bar/14.5 psi.

To modify the **idle running time** of the compressor in seconds, enter the new value (in seconds) and then press PROGRAM.

Note! **The minimum idle running time is 120 seconds and the maximum time is 600 seconds.**
 Press the DEFAULT key to exit from the menu.

ALARMS

The alarms that may possibly occur are grouped in two categories:

- Stop ALARM (Red LED lit steady)
- Warning ALARM (Red LED flashing)

STOP ALARM

This type of alarm stops and blocks the compressor. It is pointed out by the red LED lit steady (ALARM), by a buzzer and by a flashing warning on the display pointing out the cause for the alarm itself.

Pressure alarm

When the Pressure exceeds the limit alarm Pressure (this may occur if the pressure rises so rapidly that the max. cut-off Pressure fails to trip), the following appears on the display:

“PRESSURE ALARM”

The compressor stops. Once the Pressure drops ($P < \text{alarm.P}$) press RESET to set the compressor ready

to start again and at this stage the following appears on the display:
“PRESS START TO START”

Temperature alarm

When the maximum oil-air temperature is exceeded ($T > 105^{\circ}\text{C}/221^{\circ}\text{F}$) the following appears on the display:
“TEMPERATURE ALARM”

The compressor stops. To reset the machine proceed as follows:

- Press the oil thermal protection switch RESET push button situated inside the compressor in the in-between panel after the temperature has dropped by at least $10^{\circ}\text{C}/18^{\circ}\text{F}$ compared to the maximum temperature.
- Then press the RESET key in the control panel.

Thermal protection alarm

When the electric motor overheats the following appears on the display:

“THERMAL PROTECTION ALARM”

The compressor stops. To reset the machine proceed as follows:

- Open the electrical cabinet and press the RESET push button.
- Then press the RESET key in the control panel.

Rotation alarm

The compressor does not start. This alarm points out that the machine has been incorrectly connected to the electrical mains.

Rectify the connection.

WARNING ALARM

This type of alarm does not stop the compressor. It is pointed out by the red LED that flashes (ALARM on front control panel), by a buzzer and a warning on the display pointing out the warning.

“WARNING AIR FILTER”

It points out that the air filter is clogged-up. Replace the filter as soon as possible.

“WARNING OIL SEPARATOR FILTER”

It points out that the oil separator filter is clogged-up. Replace the filter as soon as possible.

“MAINTENANCE TIME WARNING”

This points out that the pre-set time for maintenance has expired. The compressor must be serviced.

5.3 Check the efficiency of the safety devices before starting

OIL LEVEL

Check the oil level as indicated in **Section 6 “Compressor maintenance”**.



DO NOT START THE COMPRESSOR WITH THE GUARDS OPEN TO AVOID INJURY DUE TO MOVING COMPONENTS OR ELECTRICALLY POWERED EQUIPMENT.

5.4 Starting the compressor

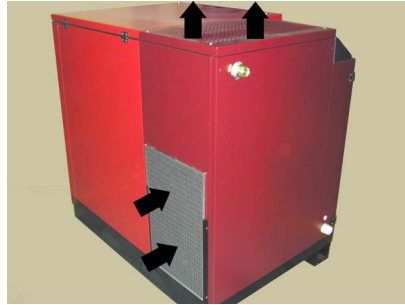


Following an electrical shortage the compressor will start only if the START (I) button is pressed.

Ventilation must occur as illustrated below.

It is of crucial importance that the compressor works with all the panels firmly closed.

The failed observance of these and the following standards may lead to accidents that could cause personal injury and serious damages to the compressor or its equipment.



Before initially starting the compressor or following extended inoperative periods, start the machine intermittently by pressing the **START(I)-STOP(O)** buttons on and off for 3 or 4 seconds. After this it is advisable to run the compressor for a few minutes with the air outlet tap open. Then gradually shut-off the air tap and load to maximum pressure, checking if the inputs on each phase of the power supply are within the limits and also if the pressure switch trips. At this stage ensure that the compressor runs idle for roughly 4 minutes. The pressure on the gauge on the panel must be between 2 and 3 bar. After this amount of time the compressor will stop as the timer will trip. Discharge the air from the tank until the starting pressure is reached (2 bar difference compared to maximum pressure). Shut-off the air outlet tap and wait for the pressure switch to trip, which will shut-on the in-take valve and close the internal discharge.

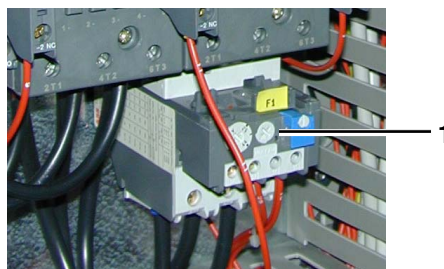
CALIBRATION AND SETTINGS MADE BY THE MANUFACTURER

The **thermal relay** is set according to the table below:

Power Hp	Rated voltage 380/415V-3ph	Rated voltage 220/240V-3ph
40	33,1 A	57,3 A
50	39,6 A	68,5 A
60	48,6 A	84,1 A

Disconnect the electrical power supply from the compressor before opening the electrical cabinet.

The setting of the thermal relay **1 must not** differ from all indicated in the table above. If the thermal relay should trip, check the input, the voltage on the line terminals L1+L2+L3 while the compressor is running and the power connections inside the electrical control panel and the motor terminal board.



USEFUL TIPS FOR CORRECT COMPRESSOR PERFORMANCE

For the correct operational performance of the machine under full continuous load at the maximum working pressure, ensure that the temperature of the work area in a closed room does not exceed +45°C.

It is advisable to use the compressor with a maximum service of 80% in one hour under full load in order to ensure the correct efficiency of the product in time.

5.5 Stopping the compressor

Press the **STOP (O)** push button and the compressor will stop immediately.

Note! By disconnecting the power supply from the external switch the compressor is completely without power.

6 Compressor maintenance



In order to use the compressor in complete safety read the safety standards given in section 1.3. before reading this section.

6.1 Instructions relative to inspections and maintenance jobs.

The table that follows summarises the periodic and preventative maintenance jobs required to keep the compressor in an efficient operational state in time.

A brief description of the running hours after which the type of maintenance job is required.



Before performing any jobs within the sound-proof cabinet, ensure that:

- The main line switch is turned off (position “0”)
- The electrical compressor switch is Off in position “0”
- The compressor is disconnected from the compressed air system
- All the pressure has been released from the compressor and internal pneumatic circuit.

The compressor has been especially designed to facilitate maintenance jobs by simply opening the side panel with quick-release locks.

Weekly: it is advisable to inspect the compressor, paying special attention to oil leaks and scale due to settled dust and oil.

Note! If the compressor is used for more than 3000 hours/year the jobs indicated herewith are to be performed more often.

Interval (hours)	Jobs to be performed	See section
500	Change the oil	6.1.1
	Replace the oil filter cartridge	6.1.2
	Tighten screws, cables, remote switches K1-K2-K3	
	Tighten the belt	6.1.5
	Check hydraulic seals	
2500÷3000	Change the oil	6.1.1
	Replace the oil filter cartridge	6.1.2
	Replace the filter cartridge of the oil separator	6.1.3
	Replace the air filter cartridge	6.1.4
	Tighten screws, cables, remote switches K1-K2-K3	
	Clean the air/oil radiator	6.1.7
	Clean the dust-removal pre-filter	6.1.8
5000÷6000	Change the oil	6.1.1
	Replace the oil filter cartridge	6.1.2
	Replace the filter cartridge of the oil separator	6.1.3
	Replace the air filter cartridge	6.1.4
	Tighten screws, cables, remote switches K1-K2-K3	
	Tighten the belt	6.1.5
	Check the hydraulic seals	
	Overhaul the in-take valve	
	Clean the air/oil radiator	6.1.7
	Clean the dust-removal pre-filter	6.1.8
	Test the motor thermal protection switch	
	Test the oil thermal protection switch	
8000÷9000	Grease the bearings of the 60 HP motor	6.1.10
	Change the oil	6.1.1
	Replace the oil filter cartridge	6.1.2
	Replace the filter cartridge of the oil separator	6.1.3
	Replace the air filter cartridge	6.1.4
	Tighten screws, cables, remote switches K1-K2-K3	
	Replace the belt	6.1.6
	Check the hydraulic seals	
	Clean the air/oil radiator	6.1.7
	Clean the dust-removal pre-filter	6.1.8
11000÷12000	Change the oil	6.1.1
	Replace the oil filter cartridge	6.1.2
	Replace the filter cartridge of the oil separator	6.1.3
	Replace the air filter cartridge	6.1.4
	Tighten screws, cables, remote switches K1-K2-K3	
	Tighten the belt	6.1.6
	Check the hydraulic seals	
	Check flexible hoses and replace if necessary	
	Overhaul the oil separator flange	
	Lubricate the minimum pressure valve	
	Overhaul the in-take valve	
	Clean the air/oil radiator	6.1.7
	Clean the dust-removal pre-filter	6.1.8
	Replace the Rilsan hoses 6x4 and 8x10	
	Replace screw oil guard	
	Maintenance the electric motor (40-50 Hp)	6.1.9

Interval (hours)	Jobs to be performed	See section
14000÷15000	Change the oil	6.1.1
	Replace the oil filter cartridge	6.1.2
	Replace the filter cartridge of the oil separator	6.1.3
	Replace the air filter cartridge	6.1.4
	Tighten screws, cables, remote switches K1-K2-K3	
	Check LEDs	
	Check cables	
	Tighten the belt	6.1.5
	Check the hydraulic seals	
	Replace OR on delivery flange	
	Tighten screws	
	Check cooling fans	
	Clean the air/oil radiator	6.1.7
	Clean the dust-removal pre-filter	6.1.8
	Clean the compressor	
	Grease the bearings of the 60 HP motor	6.1.10
17000÷18000	Change the oil	6.1.1
	Replace the oil filter cartridge	6.1.2
	Replace the filter cartridge of the oil separator	6.1.3
	Replace the air filter cartridge	6.1.4
	Tighten screws, cables, remote switches K1-K2-K3	
	Replace the belt	6.1.6
	Check the hydraulic seals	
	Overhaul in-take valve	
	Clean the air/oil radiator	6.1.7
	Clean the dust-removal pre-filter	6.1.8
20000÷21000	Change the oil	6.1.1
	Replace the oil filter cartridge	6.1.2
	Replace the filter cartridge of the oil separator	6.1.3
	Replace the air filter cartridge	6.1.4
	Tighten screws, cables, remote switches K1-K2-K3	
	Check the hydraulic seals	
	Replace bearings and screw oil guard	
	Maintenance the electric motor (40-50-60 Hp)	6.1.9
23000÷24000	Change the oil	6.1.1
	Replace the oil filter cartridge	6.1.2
	Replace the filter cartridge of the oil separator	6.1.3
	Replace the air filter cartridge	6.1.4
	Tighten screws, cables, remote switches K1-K2-K3	
	Tighten the belt	6.1.5
	Replace flexible hoses	
	Clean air/oil radiator	6.1.7

The above described maintenance schedule has been planned bearing in mind all the installation parameters and recommended use of the **Manufacturer**.

The **Manufacturer** advises the customer to keep a record of all maintenance jobs performed on the compressor, see **Section 7 – Drawings and diagrams**.

6.1.1 Changing the oil

Read all the information provided in **Section 6.1** before proceeding with any maintenance jobs. Change the oil following the initial **500 hours** of use and then every **2500/300 hours** and in event once a year.

Open the top and front panels to access inside the compressor.

Unscrew the red cap **1** on the bottom of the screw unit.

Take cap **2** off.

Screw the knurled fitting **3** (supplied with the compressor).



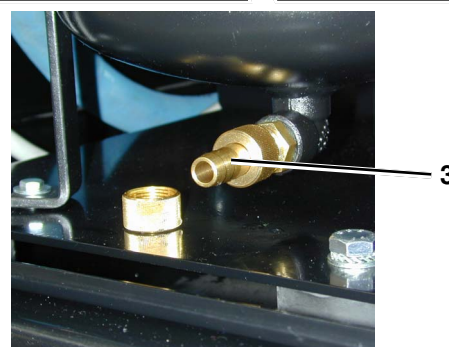
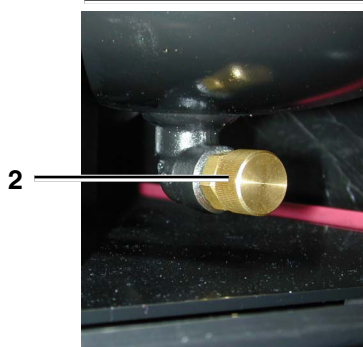
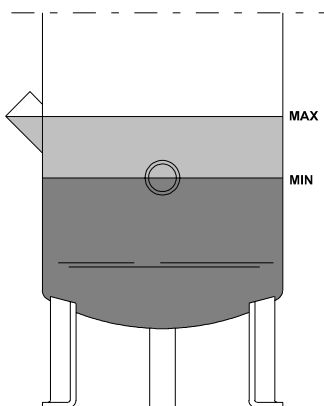
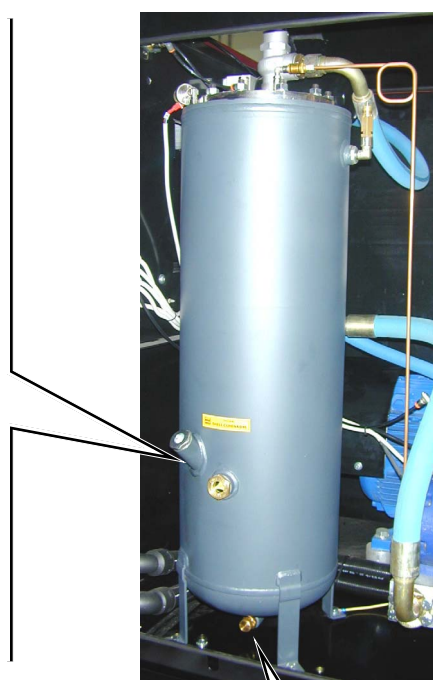
As the knurled fitting 1 is turned oil starts to seep out from the screw unit, therefore use a hose and container to collect the oil.

Once all the oil has been drained remove the knurled fitting **3** and screw cap **2** manually.

Fill-up with oil up to the rim of the port **4**, then re-screw the dedicated cap **1** back in place and close the compressor.

Once the oil and oil filter have been changed leave the compressor to run for roughly 5 minutes then turn it off and check the oil level again.

Check the oil level each month and check that it is up to the rim of the port **4**.



Never mix different types of oil, therefore always ensure that the circuit is completely empty before filling-up with oil. Each time the oil is changed the filter is also to be replaced.

6.1.2 Replacing the oil filter cartridge

Read all indicated in **Section 6.1** before starting any maintenance jobs.

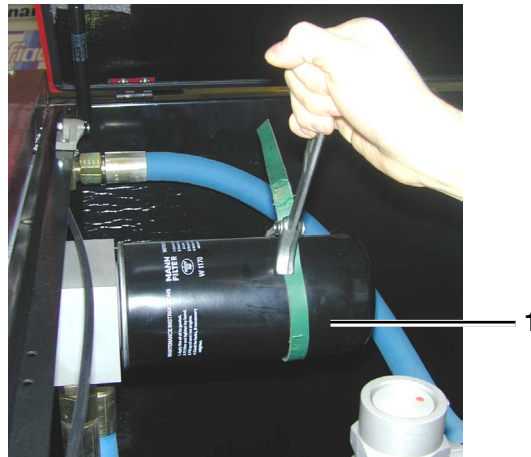
Replace the oil filter cartridge after the first **500 hours** of use then every **2500 hours** and in any event each time the oil is changed.

Open the front panel.

Disassemble filter cartridge **1**, using a chain spanner and replace with a new one.

Lubricate the sealing gasket before screwing the filter cartridge tight.

Manually tighten the new filter cartridge.



6.1.3 Replacing the filter cartridge of the oil separator

Read all indicated in **Section 6.1** before starting any maintenance jobs.

Open the front panel to gain access to inside the compressor.

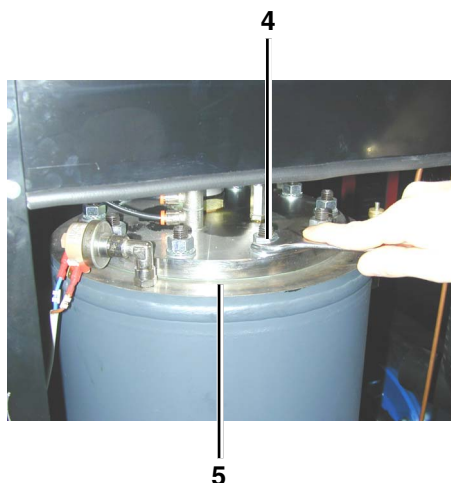
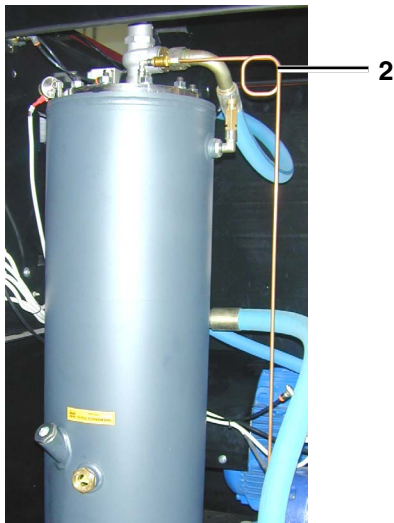
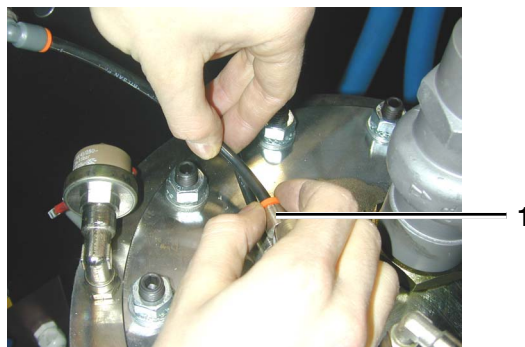
Disconnect the compressed air hoses from the hose fittings **1**.

Loosen the inlet hub **3** and disconnect the copper tube **2**.

Unscrew the nuts **4** and lift the cover **5** to access inside the separator tank.

Replace the old filter with a new one **6**.

Follow the procedure in reverse order to fit the parts disassembled back in place.



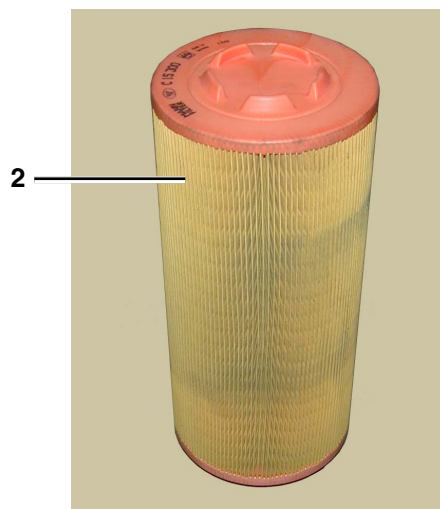
6.1.4 Replacing the air filter cartridge

Read all indicated in **Section 6.1** before starting any maintenance jobs.

Open the top panel to access inside the compressor.

Take the cover off **1**.

Replace the cartridge of the air filter **2** and fit the cover back in place.



6.1.5 Tightening the belt

Read all indicated in **Section 6.1** before starting any maintenance jobs.

Open the side right panel to gain access to inside the compressor.

Every **500 hours** of use it is advisable to check and maybe tighten the belt **1** if necessary.

Turn the nuts **2** so that the length "L" of the spring **3** is roughly 90 mm for the 40HP and roughly 80 mm for the 50/60HP.

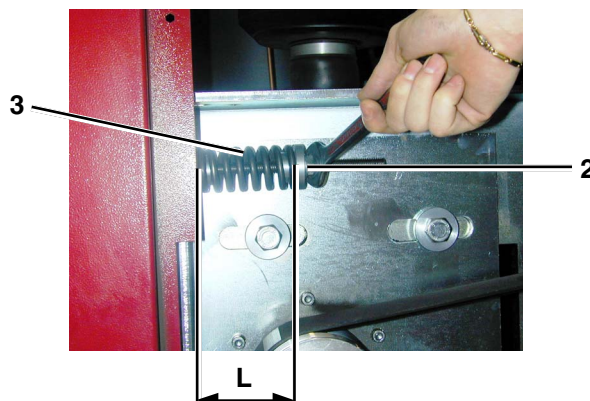
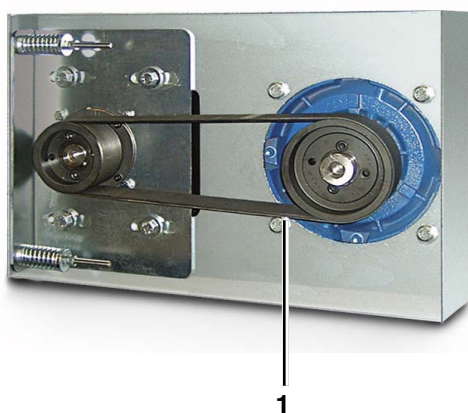
6.1.6 Replacing the belt

Read all indicated in **Section 6.1** before starting any maintenance jobs.

Open the side right and front panel.

Turn the nuts **2** to slacken the belt.

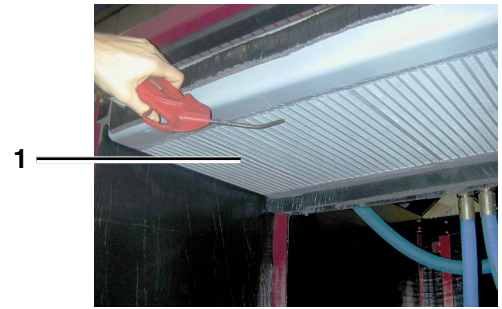
Slide the belt **1** out, replace it with a new one and tighten as described in the previous section.



6.1.7 Cleaning the air/oil radiator

Read all indicated in **Section 6.1** before starting any maintenance jobs.

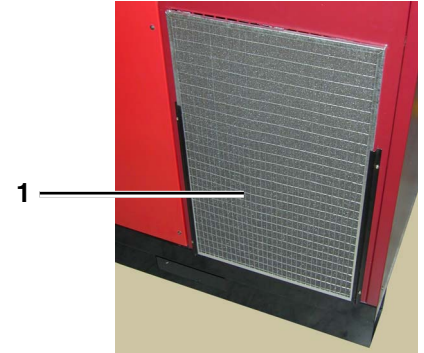
It is advisable to clean the radiator **1** on a weekly basis to remove impurities, blowing it with an air gun from inside. Open the left panel and blow compressed air from the inside of the radiator.



6.1.8 Cleaning the dust-removal pre-filter

Read all indicated in **Section 6.1** before starting any maintenance jobs.

Clean the pre-filter **1** from impurities on a weekly basis. Slide the pre-filter **1** out and blow with compressed air or replace if necessary.



6.1.9 Maintenance the electric motor

The bearings of the electric motor are already lubricated and are maintenance free.

In normal surrounding conditions (ambient temperature up to 30°C) replace the motor bearings every 12000 hours of use. In more severe surrounding conditions (ambient temperature higher than 30°C) replace the motor bearings every 8000 hours of use.

The bearings are to be replaced in any event every 4 years at the most.

Warning! Before replacing the motor bearings, contact our customer service department, as established by the maintenance schedule.

6.1.10 Grease the bearings of the 60 Hp motor.

Apply new lubrication grease on the motor bearings utilising the dedicated lubricator, every 5500 hours of use for the 60Hz models and every 7000 hours of use for the 50Hz models.

To lubricate (with roughly 30g of grease), take the tap off the grease discharge on the shield. Always clean the grease cap and turn the shaft so that the grease spreads right around the bearing. When the motor is running, right after the bearing has been lubricated, the temperature of the actual bearing will increase by 10°-15° just momentarily, to then settle back down at the normal temperature when the grease has spread evenly and any excess grease has been expelled from the bearing tracks. If bearings are lubricated excessively they would overheat. When you have finished lubricating the bearing, put the grease discharge tap back in place.

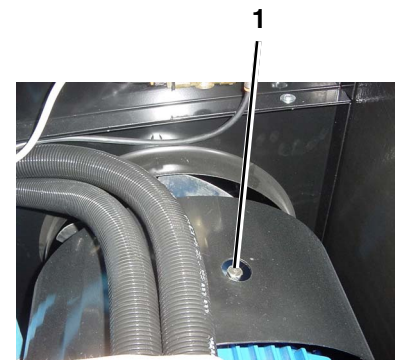
Cleaning the supports and renewing the grease

Whatever the number of hours of use, the grease is to be renewed after 1-2 years and when generally overhauling the motor. Once the motor has been disassembled, clean all parts of the bearing and the support, removing all the old grease, dry them, check the state of wear of the bearing and replace it, if necessary. Fill all the gaps around the bearing with new grease. The gaps at the side of the support are not to be filled.

Types of recommended grease

Esso Beacon 3 - Shell alvania 3 - Mobil Mobilux 3.

The quality of the grease is reduced when different greases are mixed together (thickener, type of base oil) and it must therefore be avoided.



6.2 Diagnosing the alarm status/inconveniences-faults



Before doing any job on the compressor ensure that:

- The main ON/OFF switch is turned Off (position “0”)
- The electric compressor switch is disabled in position “0”
- The compressor is shut-off from the compressed air system
- The compressor and the internal pneumatic circuit are completely de-pressurised

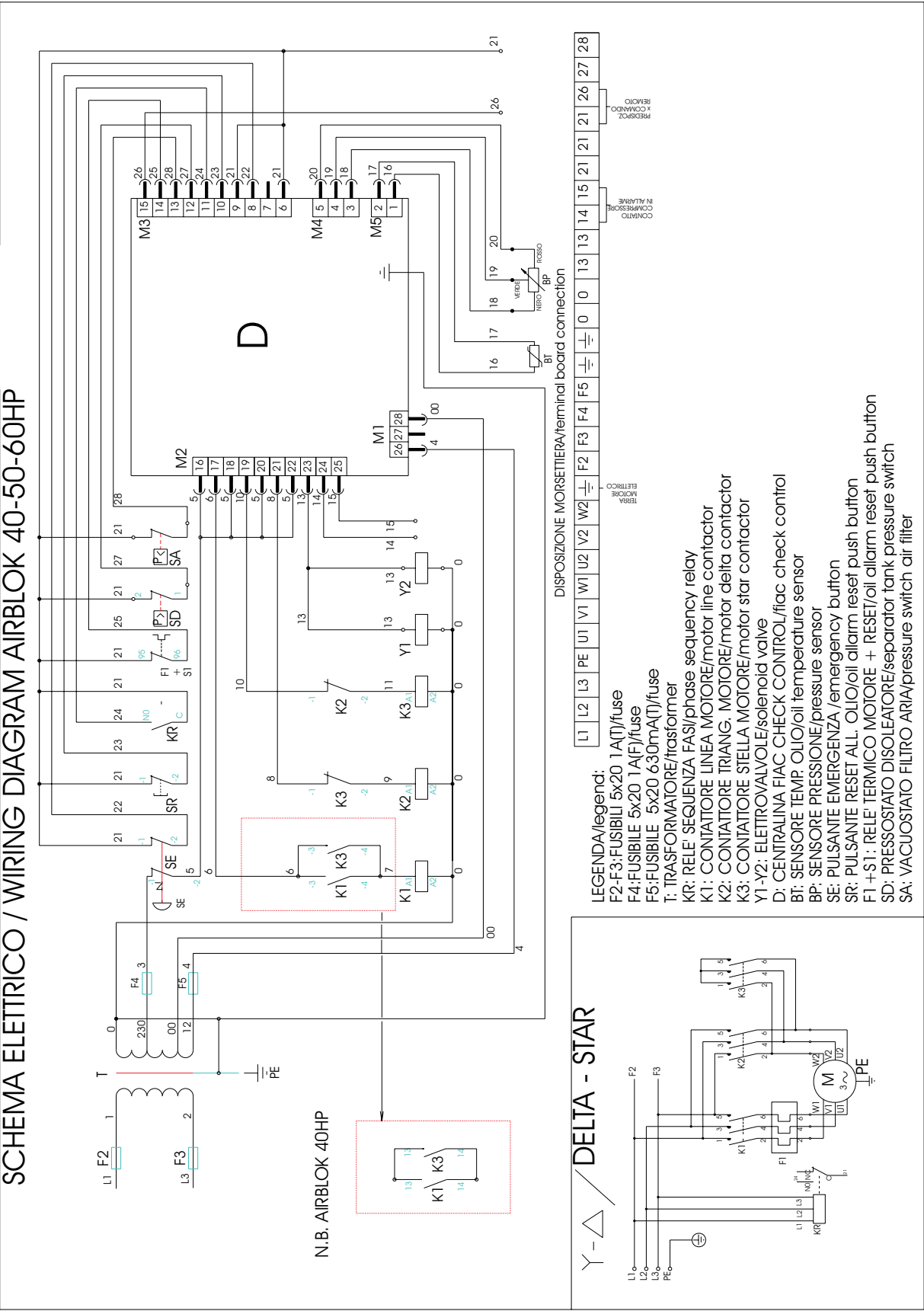
If you are unable to rectify the anomaly encountered on your compressor contact your nearest authorised service centre.

COMPRESSOR

Anomaly	Cause	Solution
Machine stopped-oil alarm triggered (Red LED lit).	Excessive temperature of air/oil mix at screw outlet (105°).	Check the oil level, check if radiator is clean, check if dust-removal pre-filter is clean. Check the ambient temperature, check the minimum distance of compressor from walls of room, check if sound-proof panels of cabinet are secured firmly in place (pressurisation of ventilation air). To start the machine again, disconnect the power supply, open the front panel of the compressor and press the reset key on the cover of the electrical system (see push button 2 – section 5.2.2.).
Machine stopped-motor thermal protection switch tripped (Red LED lit).	The thermal protection switch of the motor has tripped.	Check if the electrical powers supply is correct, check if the three power supply phases are more or less at the same value. Check if the cables are firmly fitted to the terminal board, check if the electrical cables have melted. Check if the fan in-take grid is clean or obstructed (paper, leaves, rags). To start the machine again, disconnect the power supply, open the panel of the electrical cabinet and press the reset key on the electrical cabinet (see push button 3 – section 5.2.2).
The compressor is running but fails to load.	The in-take valve fails to open.	Check if the pressure probe is working efficiently and also if the command solenoid valve (NC solenoid valve) is operating regularly.
Machine stopped-pressure safety switch tripped (Red LED lit).	The pressure has exceeded the alarm pressure.	Check the line pressure, release the pressure and take it back to the set normal working pressure.
The machine fails to start upon first-time starting. Rotation alarm triggered (Red LED lit).	The rotary screw unit is turning in the incorrect direction.	Invert the phases.
Maintenance alarm (Red LED flashing).	The set maintenance time setting has been reached.	Proceed as described in Section 6.1 of this document.

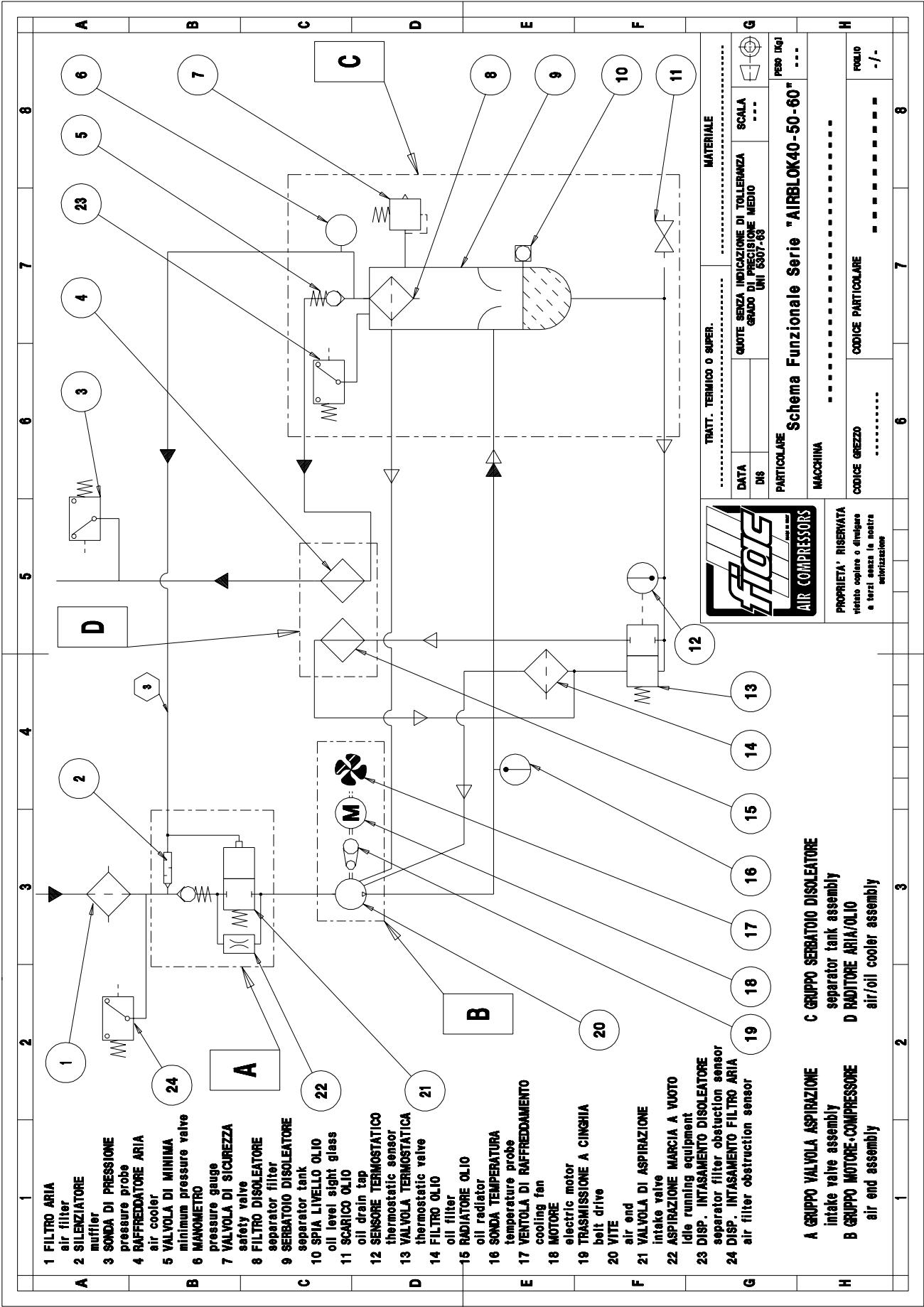
7 Drawings and diagrams

7.1 Wiring diagrams





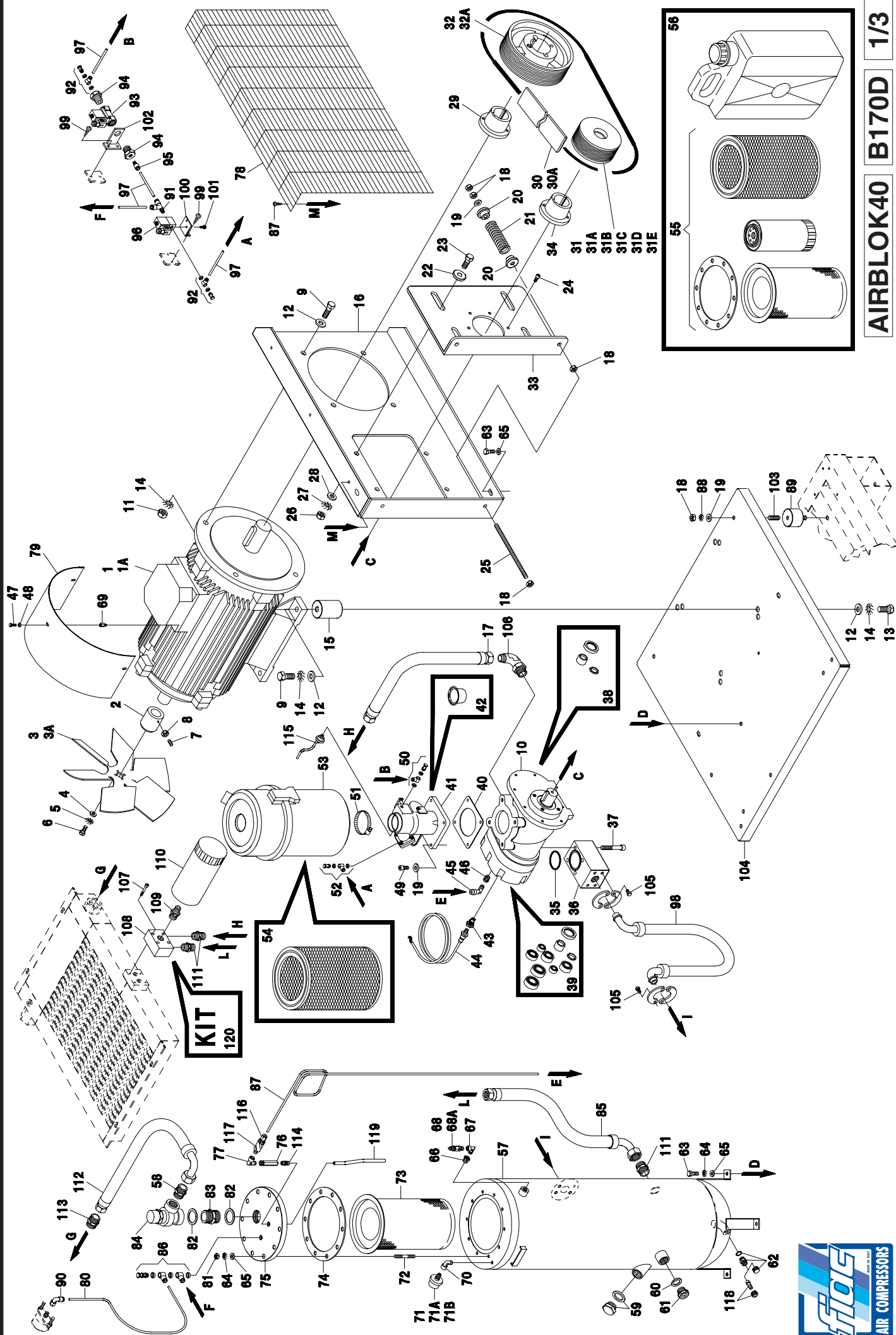
7.2 Pneumatic diagrams





AIRBLOK40	8 BAR	B170D	1/3
AIRBLOK40	10 BAR	B170D	1/3
AIRBLOK40	13 BAR	B170D	1/3

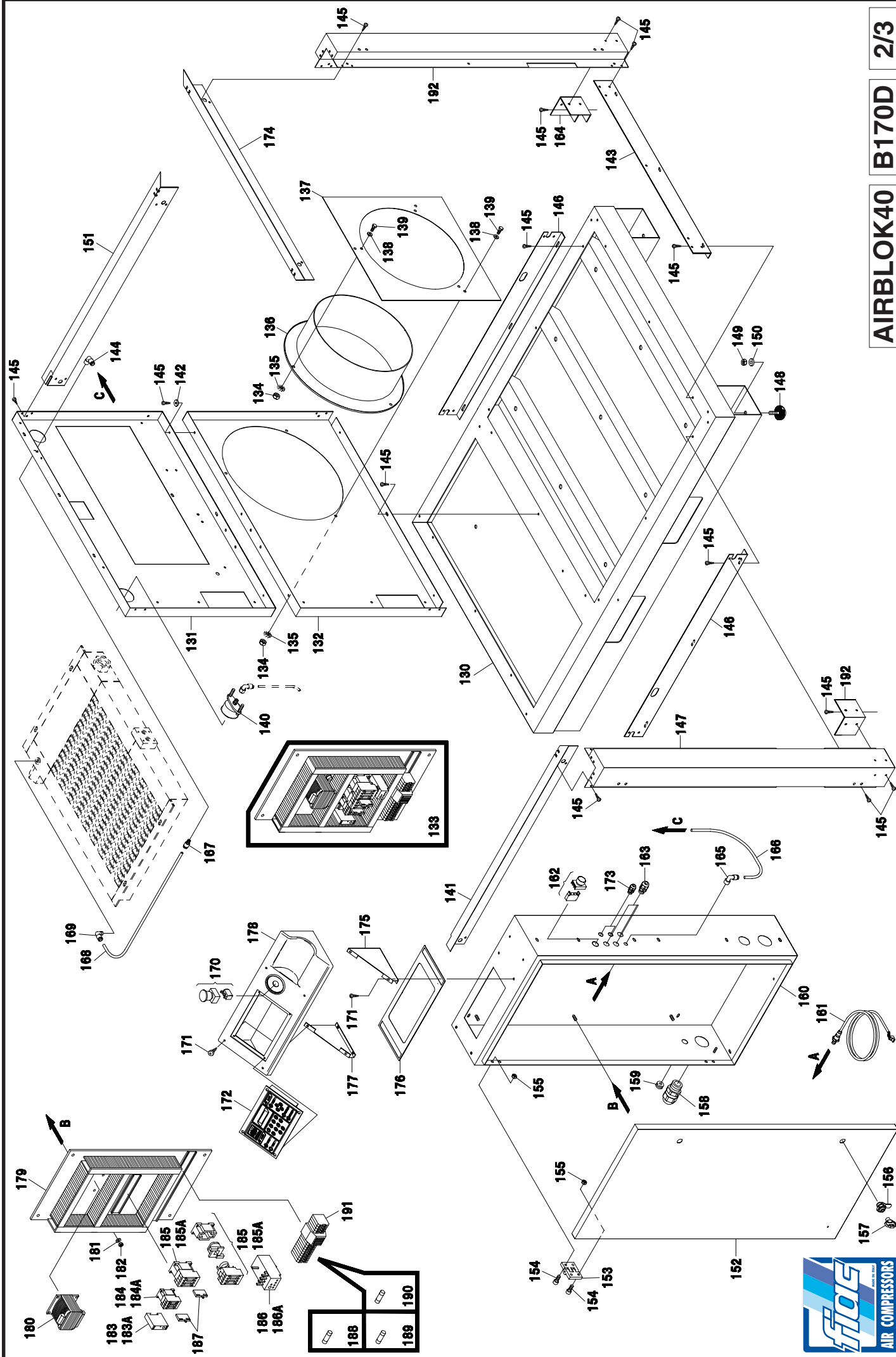
DESCRIPTION DESCRIZIONE				VALID FROM 16/04/2004 - VALIDO DAL 16/04/2004 (REV.03.D.04)			
REF. RIF.	CODE CODICE	QT QT	DESCRIPTION DESCRIZIONE	REF. RIF.	CODE CODICE	QT QT	DESCRIPTION DESCRIZIONE
1	7380210000	1	Electric motor 400V compressor - Motore elettrico compressore 400V	42	7082600000	1	Suction valve maintenance kit (See kit assembling table) - Kit manutenzione valvola di aspirazione (Vedi tavola assemblaggio kit)
1A	7383740000	1	Electric motor 230V compressor - Motore elettrico compressore 230V	43	7085940000	1	Joint - Riduzione
2	7583440000	1	Fan connection - Mozzo ventola	44	4111800000	1	Sensor - Sensore temperatura
3	720011400	1	Fan - Ventola 50Hz	45	7080200000	1	Joint - Raccordo "L" 1/8" con ogiva
3A	7201310000	1	Fan - Ventola 60Hz	46	7085180000	1	Joint - Riduzione
4	7030030000	4	Washer - Rondella Ø8	47	7011480000	3	Screw - Vite TE M6x12
5	7031010000	4	Toothed washer - Rondella dentata Ø8	48	7030190000	3	Washer - Rondella Ø6x18
6	7011090000	4	Screw - Vite TE M8x20	49	7010400000	4	Screw - Vite TCCE M12x40
7	7014190000	1	Screw - Vite STEI M8x30	50	7080890000	2	Joint - Raccordo "L" 1/4"x6
8	7020070000	1	Nut - Dado M8	51	7043011500	2	Clamp - Fascetta
9	7011660000	8	Screw - Vite TE M18x50	52	7080780000	1	Joint - Raccordo "L" 1/8"x6
10	7423230000	1	Air end - Vite completa B170D	53	7211690000	1	Air filter - Filtro aria
11	7020140000	4	Nut - Dado M18	54	7211690010	1	Air filter cartridge - Cartuccia filtro aria
12	7030610000	12	Washer - Rondella Ø18	55	4094230000	1	Filters kit - Kit filtri
13	7012800000	6	Screw - Vite TE M18x30	56	4094010000	1	Maintenance kit - Kit manutenzione
14	7030600000	12	Toothed washer - Rondella dentata Ø18	57	7473420000	1	Separator tank - Serbatoio separatore
15	7172130000	4	Support - Supporto motore	58	7081031150	1	Joint - Nipplo 1"
16	7510780000	1	Support - Piastra trasmissione motore	59	7090490000	1	Plug - Tappo 1" con rondella
17	7234020000	1	Hose - Tubo iniezione	60	7030460000	1	Washer - Rondella
18	7020100000	14	Nut - Dado M12	61	7180140000	1	Oil level sight glass - Spia livello olio
19	7030140000	14	Washer - Rondella Ø12	62	7562600000	1	Relief valve - Scaricatore olio 1/2"
20	7459440000	4	Guide - Guida molla	63	7011160000	15	Screw - Vite TE M10x30
21	7160280000	2	Tensioning spring - Molla tensionatore	64	7030360000	4	Toothed washer - Rondella dentata Ø10
22	7459430000	4	Guide - Guida piastra	65	7030040000	15	Washer - Rondella Ø10
23	7011620000	4	Screw - Vite TE M16x35	66	6002703438	1	Joint - Riduzione 3/4" 3/8"
24	7010050000	6	Screw - Vite TCCE M8x20	67	7080010000	1	Joint - Raccordo "L" 3/8" MF
25	7018650000	2	Screw bolt - Perno tenditore	68	7192000000	1	Safety valve - Valvola di sicurezza 3/8" (11bar)
26	7024200000	4	Nut - Dado M16	68A	7192520000	1	Safety valve - Valvola di sicurezza 3/8" (14,25bar)
27	7030490000	4	Toothed washer - Rondella dentata Ø16	69	7018620000	3	Spacer - Distanziale M6x35
28	7030730000	4	Washer - Rondella Ø16	70	7080870000	1	Joint - Raccordo "L" 1/8" MF
29	7583100000	1	Connection - Mozzo	71	7250700000	1	Pressure switch for separator filter clogging - Pressostato intasamento filtro disoleatore (8 bar)
30	7371450000	1	Belt - Cinghia (50Hz)	71A	7250710000	1	Pressure switch for separator filter clogging - Pressostato intasamento filtro disoleatore (10 bar)
30A	7370890000	1	Belt - Cinghia (60Hz)	71B	7250750000	1	Pressure switch for separator filter clogging - Pressostato intasamento filtro disoleatore (13 bar)
31	7407220000	1	Pulley - Puleggia vite Øp125 (8bar 50Hz)	72	7015380000	10	Screw - Vite STEI M12x60
31A	7407230000	1	Pulley - Puleggia vite Øp132 (10bar 50Hz)	73	7212210000	1	Separator cartridge - Filtro disoleatore
31B	7407190000	1	Pulley - Puleggia vite Øp153 (13bar 50Hz)	74	7079650000	1	Gasket - Guarnizione
31C	7407190000	1	Pulley - Puleggia vite Øp153 (8bar 60Hz)	75	5158790008	1	Cover - Coperchio disoleatore
31D	7407160000	1	Pulley - Puleggia vite Øp173 (10bar 60Hz)	76	7191010000	1	Valve - Valvola flusso unidirezionale
31E	7409470000	1	Pulley - Puleggia vite Øp193 (13bar 60Hz)	77	7080180000	1	Joint - Raccordo "L" 1/4" MF
32	7407230000	1	Pulley - Puleggia motore Øp 133 (8-10bar)	78	7240490000	1	Belt guard - Paracinghia
32A	7407220000	1	Pulley - Puleggia motore Øp 125 (13bar)	79	5166050008	1	Conveyor - Convogliatore
33	7511240000	1	Plate - Piastra	80	7230800000	1	Rilsan hose - Tubo Rilsan nero
34	7583021400	1	Connection - Mozzo	81	7020080000	10	Nut - Dado M10
35	7070650000	1	Or - Or flangia di mandata	82	7090460000	2	Washer - Rondella 1"
36	7488290000	1	Delivery flange - Flangia di mandata	83	7081710000	1	Joint - Nipplo 1"1/4x1"
37	7010610000	4	Screw - Vite TCCE M12x85	84	7196290000	1	Minimum pressure valve - Valvola di minima pressione
38	4094540000	1	Oil seal kit (See kit assembling table) - Kit paraolio (Vedi tavola assemblaggio kit)	85	7234010000	1	Hose - Tubo pescaggio olio
39	4094550000	1	Bearings kit-Oil seal kit (See kit assembling table) - Kit cuscinetti-Kit paraolio (Vedi tavola assemblaggio kit)	86	4093270000	1	Joint - Raccordo ad asta 1/4"
40	7079630000	1	Gasket - Guarnizione valvola di aspirazione	87	7239140000	1	Hose - Tubo recupero olio
41	7195850000	1	Suction valve - Valvola di aspirazione	88	7030750000	6	Toothed washer - Rondella dentata Ø12



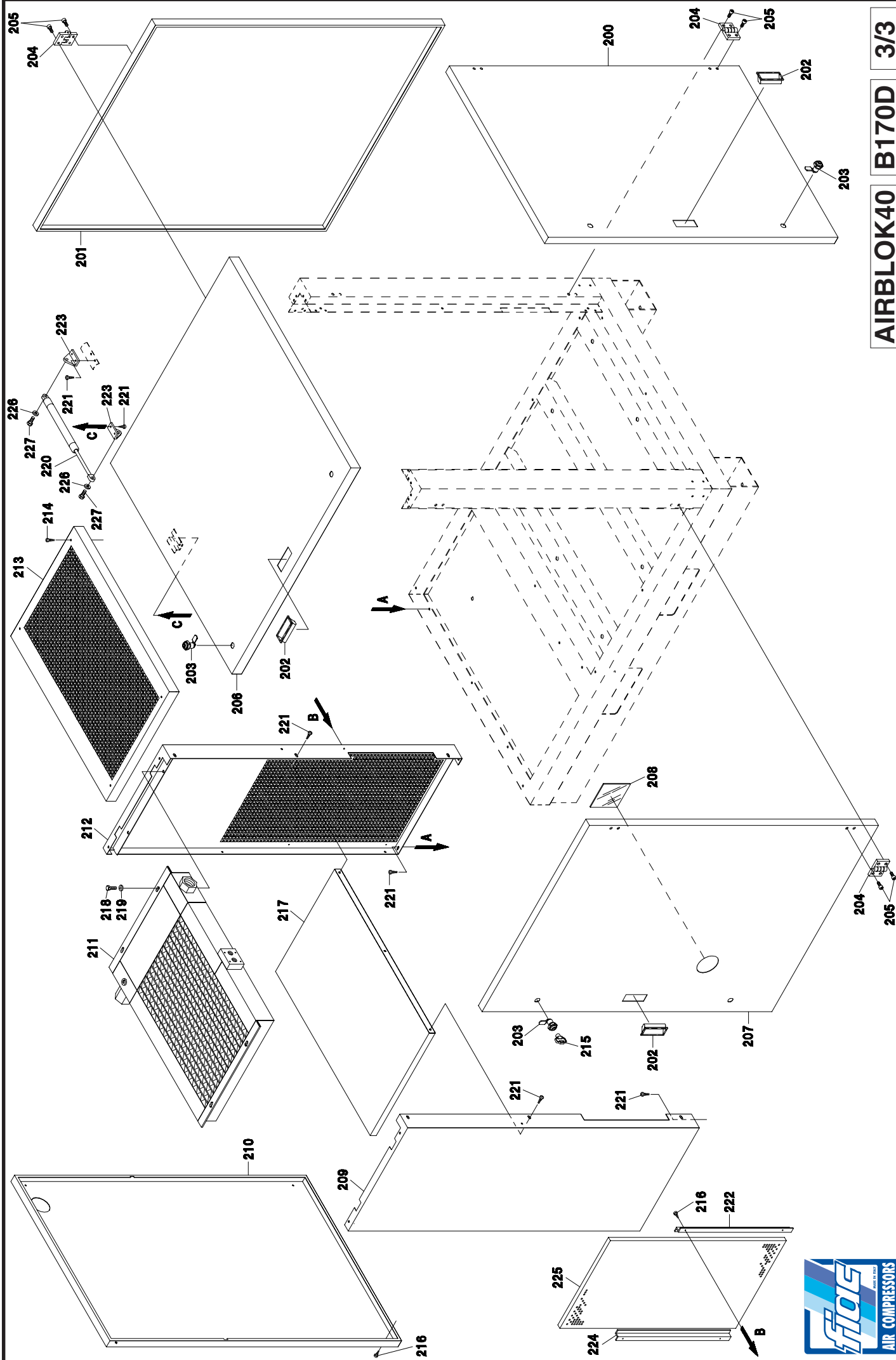


AIRBLOK40	8 BAR	B170D	2/3
AIRBLOK40	10 BAR	B170D	2/3
AIRBLOK40	13 BAR	B170D	2/3

DESCRIPTION DESCRIZIONE				VALID FROM 16/04/2004 - VALIDO DAL 16/04/2004 (REV.03.D.04)			
REF. RIF.	CODE CODICE	QT QT	DESCRIPTION DESCRIZIONE	REF. RIF.	CODE CODICE	QT QT	DESCRIPTION DESCRIZIONE
89	7364530000	6	Shock absorbe - Antivibranti	147	5166040008	1	Column - Montante destro anteriore
90	7080780000	1	Joint - Raccordo "L"	148	7360340000	4	Shock absorber - Antivibranti
91	7082300000	1	Joint - Raccordo "1/8"x6	149	7020080000	4	Nut - Dado M10
92	7080810000	2	Joint - Raccordo "L" 1/4"x8	150	7030040000	4	Washer - Rondella Ø10
93	7194330000	1	Solenoid valve - Elettrovalvola	151	5165950008	1	Angular - Angolare superiore anteriore
94	7085600000	2	Joint - Raccordo 1/2" 1/4" MF	152	5165930008	1	Panel - Sportello cassetta elettrica
95	7084220000	1	Joint - Raccordo diritto 1/4"x6	153	7018590000	2	Hinge - Cerniera
96	7194340000	1	Solenoid valve - Elettrovalvola	154	7014140000	8	Screw - Vite T.E. M6x22
97	7230010000	1	Rilsan hose - Tubo Rilsan	155	7020060000	8	Nut - Dado M6
98	7232820000	1	Hose - Tubo mandata	156	7458640000	2	Key hole - Serratura
99	7012290000	4	Screw - Vite T.C. M5x20	157	7458650000	1	Key - Chiave
100	7155700008	1	Support - Staffa	158	7500410000	1	Stretch eliminator - Pressacavo M40x1.5
101	7011480000	2	Screw - Vite TE M6x12	159	7090440000	1	Plug - Tappo M20x1.5
102	5160860008	1	Support - Staffa	160	5165920008	1	Electric box - Cassetta elettrica
103	7016220000	6	Screw - Vite S.T.E.I. M12x30	161	4111810000	1	Pressure sensor - Sensore di pressione
104	5165850008	1	Base - Base	162	7300230000	1	RESET Push-button - Pulsante RESET
105	7011270000	4	Screw - Vite TE M12x30	163	7500440000	1	Stretch eliminator - Pressacavo M20x1.5
106	7084650000	1	Joint - Raccordo "L" 3/4"	164	5166080000	2	Support - Supporto montanti
107	7010520000	4	Screw - Vite T.C.C.E. M6x55	165	7080800000	1	Joint - Raccordo a "L" 1/8"x6
108	7195810000	1	Thermostatic - Termostatica	166	7230010000	1	Rilsan hose - Tubo Rilsan Ø6
109	7081390000	1	Joint - Nipplo 3/4"	167	7084310000	1	Joint - Raccordo diritto 1/8"x6 con ogiva
110	7211141300	1	Oil filter - Filtro olio	168	7239130000	1	Hose - Tubo rame aria
111	7081120000	3	Joint - Nipplo 3/4"	169	7080800000	1	Joint - Raccordo "L" 1/2"
112	7235580000	1	Hose - Tubo mandata aria 1"	170	7300080000	1	Emergency push-button - Interruttore a fungo
113	7081031150	1	Joint - Nipplo 1"	171	7012240000	4	Screw - Vite TC M5x15
114	7081140000	1	Joint - Nipplo 1/4"	172	7433090000	1	Electronic panel - Scheda elettronica
115	7564020000	1	Device for air filter clogging - Dispositivo intasamento filtro aria	173	7500430000	1	Stretch eliminator - Pressacavo M16x1.5
116	7084010000	1	Joint - Raccordo 1/8" con ogiva	174	5165970008	1	Angular - Angolare destro superiore
117	7180110000	1	Joint - Raccordo	175	5162990008	1	Support - Supporto destro cruscotto
118	7562600010	1	Valve - Valvola a resca	176	7070580000	1	Gasket - Guarnizione pannello portastrumenti
119	7233200000	1	Hose - Tubo recupero olio	177	5164530008	1	Support - Supporto sinistro cruscotto
120	7196540000	1	Thermostatic valve kit - Kit valvola termostatica	178	7155450000	1	Dashboard - Pannello portastrumenti
				179	7510660000	1	Electric base - Base impianto elettrico
				180	7564260000	1	Transformer - Trasformatore
130	5118000008	1	Compressor base - Base compressore	181	7031010000	6	Washer - Rondella Ø8
131	5162360008	1	Panel - Pannello intermedio superiore nero	182	7020070000	6	Nut - Dado M8
132	5165860008	1	Panel - Pannello intermedio inferiore nero	183	7433030000	1	Relay 400V compressor - Rele sequenza fasi compressore 400V KR
133	7413290000	1	Electric board - Apparecchiatura elettrica	183A	7432770000	1	Relay 230V compressor - Rele sequenza fasi compressore 230V KR
134	7020070000	3	Nut - Dado M8	184	7432280000	1	Contacto 400V compressor - Contattore compressore 400V K3
135	7031010000	3	Washer - Rondella Ø8	184A	7432300000	1	Contacto 230V compressor - Contattore compressore 230V K3
136	5166070008	1	Fan conveyor - Convogliatore aria	185	7432300000	1	Contacto 400V compressor - Contattore compressore 400V K1-K2
137	5160220008	1	Reduction - Riduttore ventola	185A	7432390000	1	Contacto 230V compressor - Contattore compressore 230V K1-K2
138	7030030000	3	Washer - Rondella Ø8	186	7432470000	1	Thermal relay 400V compressor - Rele termico compressore 400V F1
139	7081100000	3	Screw - Vite TE M8x25	186A	7432490000	1	Thermal relay 230V compressor - Rele termico compressore 230V F1
140	7111040000	1	Pressure gauge - Manometro	187	7432840000	2	Contact - Contatti ausiliari
141	5165960008	1	Angular - Angolare posteriore superiore	188	7432720000	1	Fuse - Fusibile 1A ritardato
142	7030560000	30	Washer - Rondella Ø5x20	189	7431640000	1	Fuse - Fusibile 1A rapido
143	5165980008	1	Angular - Angolare destro inferiore	190	7432730000	1	Fuse - Fusibile 630mA ritardato
144	7080800000	1	Joint - Raccordo a "L" 1/8"x6	191	7432760000	1	Fuse carrier - Portafusibili
145	7012240000	80	Screw - Vite M5x15	192	5166350008	1	Column - Montante destro posteriore
146	5165940008	2	Angular - Angolare inferiore anteriore/posteriore				



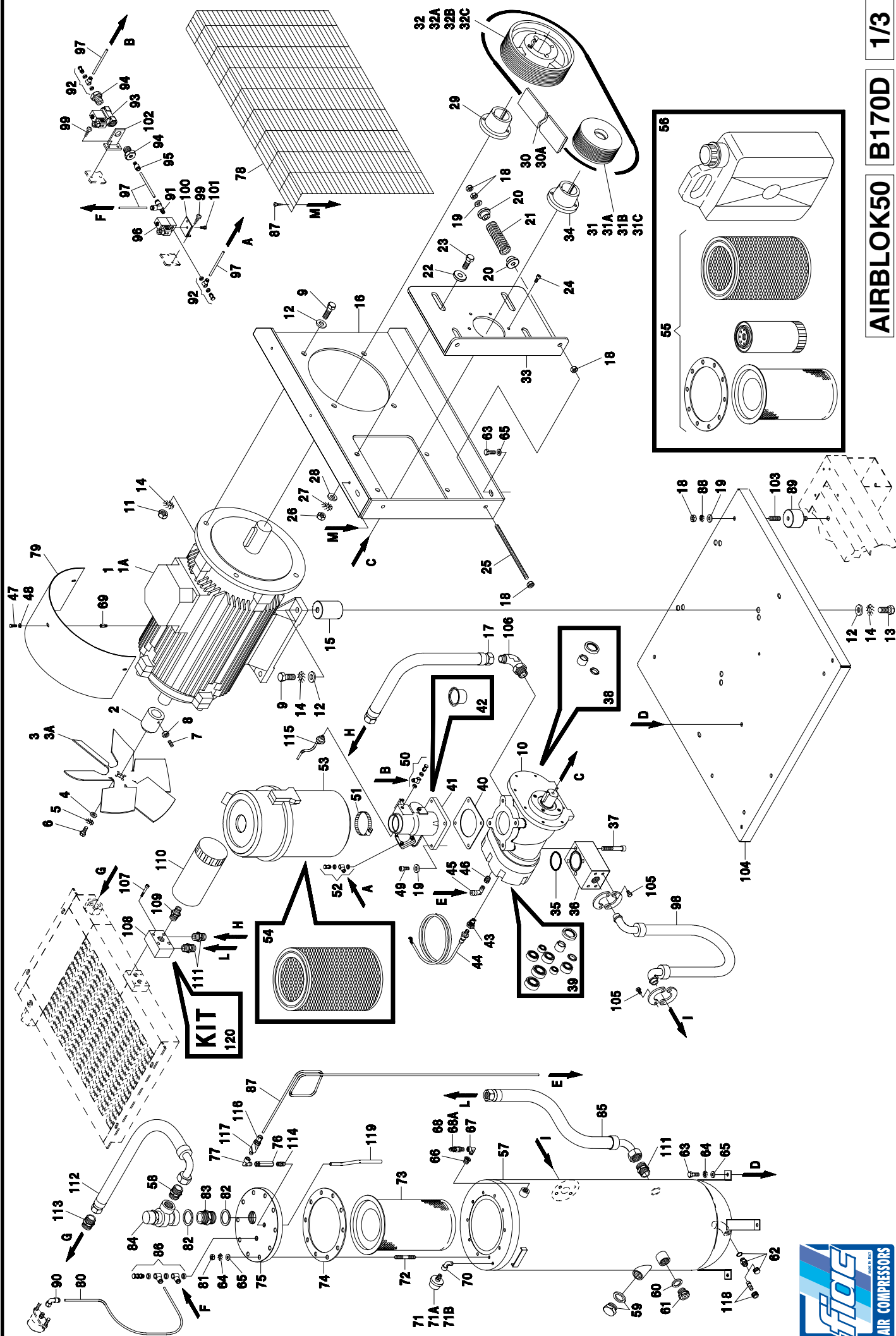
[illegible]





AIRBLOK50	8 BAR	B170D	1/3
AIRBLOK50	10 BAR	B170D	1/3
AIRBLOK50	13 BAR	B170D	1/3

DESCRIPTION DESCRIZIONE				VALID FROM 18/10/2004 - VALIDO DAL 18/10/2004 (REV.04.L.04)			
REF. R/F.	CODE CODICE	QT QT	DESCRIPTION DESCRIZIONE	REF. R/F.	CODE CODICE	QT QT	DESCRIPTION DESCRIZIONE
1	7380430000	1	Electric motor 380V-460V compressor - Motore elettrico compressore 380÷460V	42	7082600000	1	Suction valve maintenance kit (See kit assembling table) - Kit manutenzione valvola di aspirazione (Vedi tavola assemblaggio kit)
1A	7383750000	1	Electric motor 208-240V compressor - Motore elettrico compressore 208÷240V	43	7085940000	1	Joint - Riduzione
2	7583440000	1	Fan connection - Mozzo ventola	44	4111800000	1	Sensor - Sensore temperatura
3	720011500	1	Fan - Ventola 50Hz	45	7080200000	1	Joint - Raccordo "L" 1/8" con ogiva
3A	7201320000	1	Fan - Ventola 60Hz	46	7085180000	1	Joint - Riduzione
4	7030030000	4	Washer - Rondella Ø8	47	7011480000	3	Screw - Vite TE M6x12
5	7031010000	4	Toothed washer - Rondella dentata Ø8	48	7030190000	3	Washer - Rondella Ø6x18
6	7011090000	4	Screw - Vite TE M8x20	49	7010400000	4	Screw - Vite TCCE M12x40
7	7014190000	1	Screw - Vite STEI M8x30	50	7080390000	2	Joint - Raccordo "L" 1/4"x6
8	7020070000	1	Nut - Dado M8	51	7043011500	2	Clamp - Fascetta
9	7011660000	8	Screw - Vite TE M18x50	52	7080780000	1	Joint - Raccordo "L" 1/8"x6
10	7423230000	1	Air end - Vite completa B170/D	53	7211690000	1	Air filter - Filtro aria
11	7020140000	4	Nut - Dado M18	54	7211690010	1	Air filter cartridge - Cartuccia filtro aria
12	7030610000	12	Washer - Rondella Ø18	55	4094240000	1	Filters kit - Kit filtri
13	7012800000	6	Screw - Vite TE M18x30	56	4094020000	1	Maintenance kit - Kit manutenzione
14	7030600000	12	Toothed washer - Rondella dentata Ø18	57	7473420000	1	Separator tank - Serbatoio separatore
15	7172130000	4	Support - Supporto motore	58	7081031150	1	Joint - Nipplo 1"
16	7510780000	1	Support - Piastra trasmissione motore	59	7090490000	1	Plug - Tappo 1" con rondella
17	7234020000	1	Hose - Tubo iniezione	60	7030460000	1	Washer - Rondella
18	7020100000	14	Nut - Dado M12	61	7180140000	1	Oil level sight glass - Spia livello olio
19	7030140000	14	Washer - Rondella Ø12	62	7562600000	1	Relief valve - Scaricatore olio 1/2"
20	7459440000	4	Guide - Guida molla	63	7011160000	15	Screw - Vite TE M10x30
21	7160280000	2	Tensioning spring - Molla tensionatore	64	7030360000	4	Toothed washer - Rondella dentata Ø10
22	7459430000	4	Guide - Guida piastra	65	7030040000	15	Washer - Rondella Ø10
23	7011620000	4	Screw - Vite TE M16x35	66	6002703438	1	Joint - Riduzione 3/4" 3/8"
24	7010050000	6	Screw - Vite TCCE M8x20	67	7080010000	1	Joint - Raccordo "L" 3/8" MF
25	7018650000	2	Screw bolt - Perno tenditore	68	7192000000	1	Safety valve - Valvola di sicurezza 3/8" (11bar)
26	7024200000	4	Nut - Dado M16	68A	7192520000	1	Safety valve - Valvola di sicurezza 3/8" (14÷25bar)
27	7030490000	4	Toothed washer - Rondella dentata Ø16	69	7018620000	3	Spacer - Distanziale M6x35
28	7030730000	4	Washer - Rondella Ø16	70	7080870000	1	Joint - Raccordo "L" 1/8" MF
29	7583100000	1	Connection - Mozzo	71	7250700000	1	Pressure switch for separator filter clogging - Pressostato intasamento filtro disoleatore (8 bar)
30	7370840000	1	Belt - Cinghia (8-10bar 50Hz)	71A	7250710000	1	Pressure switch for separator filter clogging - Pressostato intasamento filtro disoleatore (10 bar)
30A	7371470000	1	Belt - Cinghia (13bar 50Hz 8-10-13bar 60Hz)	71B	7250750000	1	Pressure switch for separator filter clogging - Pressostato intasamento filtro disoleatore (13 bar)
31	7407440000	1	Pulley - Puleggia vite Øp132 (8-10-13bar 50Hz)	72	7015380000	10	Screw - Vite STEI M12x60
31A	7407170000	1	Pulley - Puleggia vite Øp125 (8bar 60Hz)	73	7212210000	1	Separator cartridge - Filtro disoleatore
31B	7407210000	1	Pulley - Puleggia vite Øp132 (10bar 60Hz)	74	7079650000	1	Gasket - Guarnizione
31C	7407180000	1	Pulley - Puleggia vite Øp153 (13bar 60Hz)	75	5168790000	1	Cover - Coperchio disoleatore
32	7407140000	1	Pulley - Puleggia motore Øp193 (8bar 50Hz)	76	7191010000	1	Valve - Valvola flusso unidirezionale
32A	7407200000	1	Pulley - Puleggia motore Øp173 (10bar 50/60Hz)	77	7080180000	1	Joint - Raccordo "L" 1/4" MF
32B	7407180000	1	Pulley - Puleggia motore Øp153 (13bar 50Hz - 8bar 60Hz)	78	7240490000	1	Belt guard - Paracinghia
32C	7407210000	1	Pulley - Puleggia motore Øp132 (13bar 60Hz)	79	5166050000	1	Conveyor - Convogliatore
33	7511240000	1	Plate - Piastra	80	7230010000	1	Rilsan hose - Tubo Rilsan nero
34	7583021400	1	Connection - Mozzo	81	7020080000	10	Nut - Dado M10
35	7070650000	1	Or - Or flangia di mandata	82	7090460000	2	Washer - Rondella 1"
36	7488290000	1	Delivery flange - Flangia di mandata	83	7081710000	1	Joint - Nipplo 1"1/4x1"
37	7010610000	4	Screw - Vite TCCE M12x85	84	7196290000	1	Minimum pressure valve - Valvola di minima pressione
38	4094540000	1	Oil seal kit (See kit assembling table) - Kit paraolio (Vedi tavola assemblaggio kit)	85	7234010000	1	Hose - Tubo pescaggio olio
39	4094550000	1	Bearings kit+Oil seal kit (See kit assembling table) - Kit cuscinetti+Kit paraolio (Vedi tavola assemblaggio kit)	86	4093270000	1	Joint - Raccordo ad asta 1/4"
40	7079630000	1	Gasket - Guarnizione valvola di aspirazione	87	7239140000	1	Hose - Tubo recupero olio
41	7195850000	1	Suction valve - Valvola di aspirazione	88	7030750000	6	Toothed washer - Rondella dentata Ø12

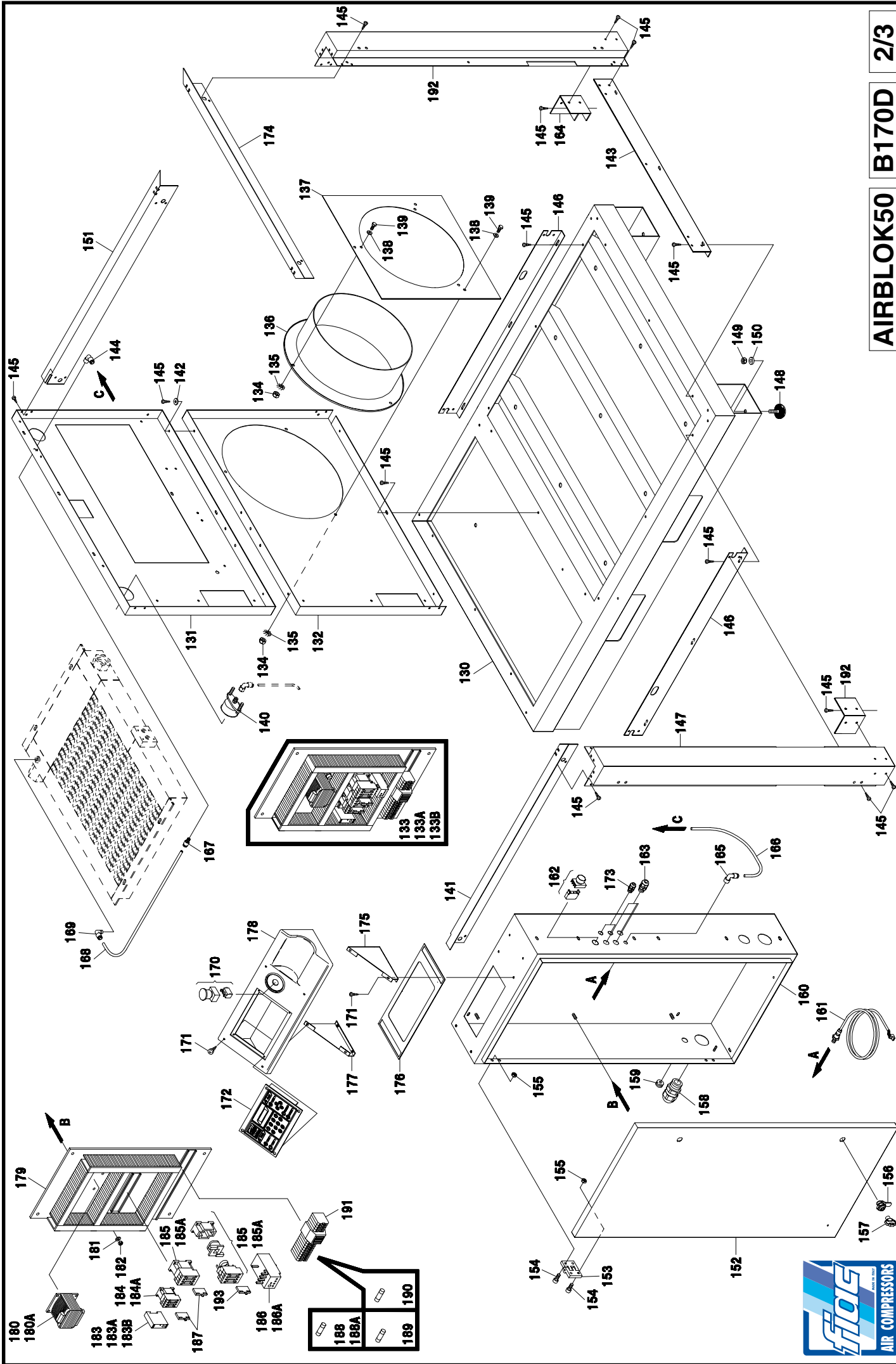




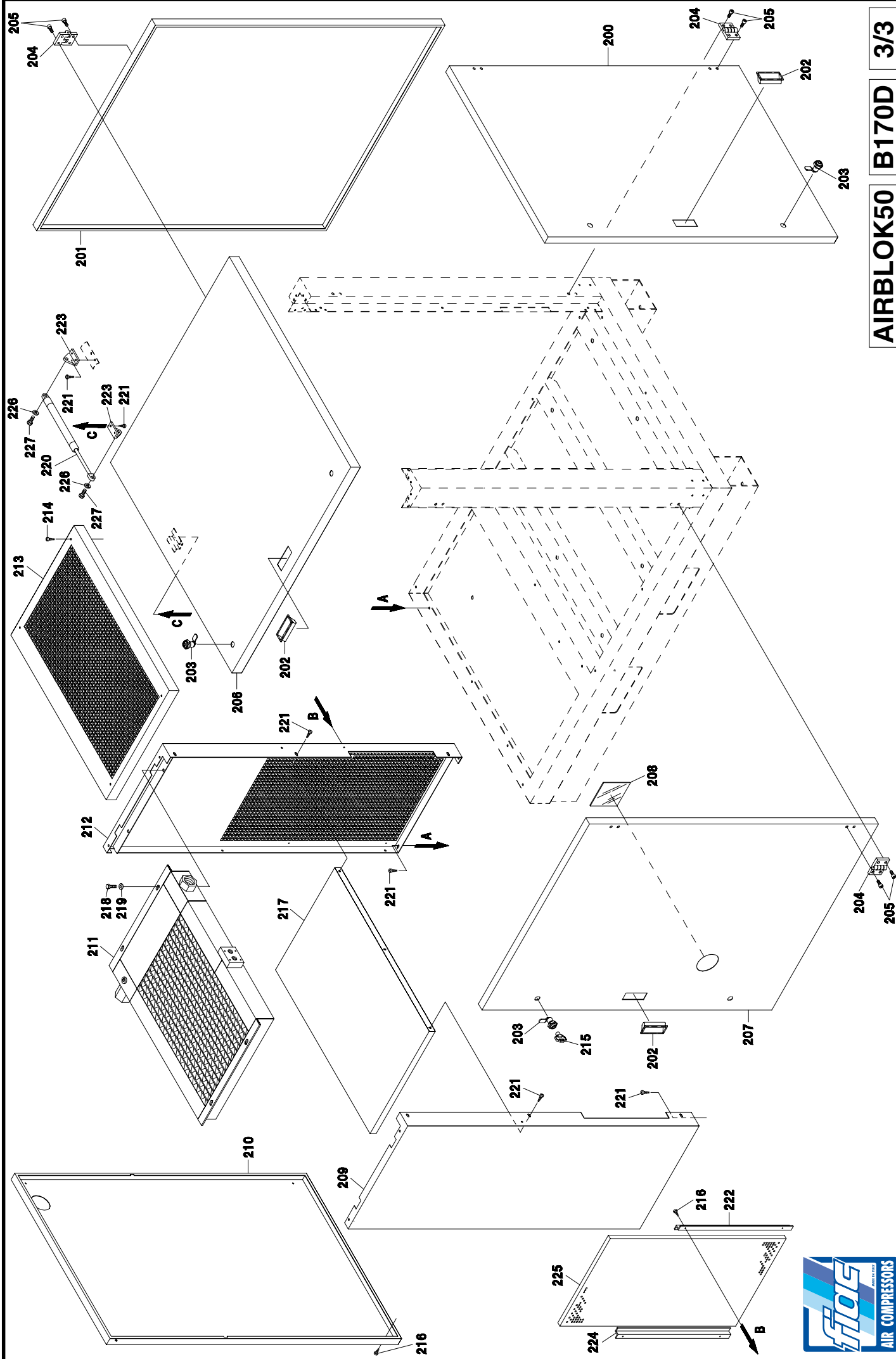
AIRBLOK50	8 BAR	SCA10	2/3
AIRBLOK50	10 BAR	SCA10	2/3
AIRBLOK50	13 BAR	SCA10	2/3

REF. R/F.	CODE CODICE	QT QT	DESCRIPTION DESCRIZIONE	REF. R/F.	CODE CODICE	QT QT	DESCRIPTION DESCRIZIONE
89	7384530000	6	Shock absorbe - Antivibranti	146	5165940008	2	Angular - Angolare inferiore anteriore/posteriore
90	7080780000	1	Joint - Raccordo "L"	147	5166040008	1	Column - Montante destro anteriore
91	7082300000	1	Joint - Raccordo "I" 1/8"x6	148	7360340000	4	Shock absorber - Antivibranti
92	7080810000	2	Joint - Raccordo "L" 1/4"x8	149	7020080000	4	Nut - Dado M10
93	7194330000	1	Solenoid valve - Elettrovalvola	150	7030040000	4	Washer - Rondella Ø10
94	7085600000	2	Joint - Raccordo 1/2" 1/4" MF	151	5165950008	1	Angular - Angolare superiore anteriore
95	7084220000	1	Joint - Raccordo diritto 1/4"x6	152	5165930008	1	Panel - Sportello cassetta elettrica
96	7194340000	1	Solenoid valve - Elettrovalvola	153	7018590000	2	Hinge - Cerniera
97	7230010000	1	Rilsan hose - Tubo Rilsan	154	7014140000	8	Screw - Vite T.E. M6x22
98	7232820000	1	Hose - Tubo mandata	155	7020060000	8	Nut - Dado M6
99	7012290000	4	Screw - Vite T.C. M5x20	156	7458640000	2	Key hole - Serratura
100	7155700008	1	Support - Staffa	157	7458650000	1	Key - Chiave
101	7011480000	2	Screw - Vite TE M6x12	158	7500410000	1	Stretch eliminator - Pressacavo M40x1,5
102	5160860008	1	Support - Staffa	159	7090440000	1	Plug - Tappo M20x1,5
103	7016220000	6	Screw - Vite S.T.E.I. M12x30	160	5165920008	1	Electric box - Cassetta elettrica
104	5165850008	1	Base - Base	161	4111810000	1	Pressure sensor - Sensore di pressione
105	7011270000	4	Screw - Vite TE M12x30	162	7300230000	1	RESET Push-button - Pulsante RESET
106	7084650000	2	Joint - Raccordo "L" 3/4"	163	7500440000	1	Stretch eliminator - Pressacavo M20x1,5
107	7010520000	4	Screw - Vite T.C.C.E. M6x55	164	5166080000	2	Support - Supporto montanti
108	7195810000	1	Thermostatic - Termostatica	165	7080800000	1	Joint - Raccordo a "L" 1/8"x6
109	7081390000	1	Joint - Nipplo 3/4"	166	7030010000	1	Rilsan hose - Tubo Rilsan Ø6
110	7211131500	1	Oil filter - Filtro olio	167	7084310000	1	Joint - Raccordo diritto 1/8"x6 con ogiva
111	7081120000	2	Joint - Nipplo 3/4"	168	7239130000	1	Hose - Tubo rame aria
112	7235580000	1	Hose - Tubo mandata aria 1"	169	7080800000	1	Joint - Raccordo "L" 1/2"
113	7081031150	1	Joint - Nipplo 1"	170	7300080000	1	Emergency push-button - Interruttore a fungo
114	7081140000	1	Joint - Nipplo 1/4"	171	7012240000	4	Screw - Vite TC M5x15
115	7564020000	1	Device for air filter clogging - Dispositivo intasamento filtro aria	172	7433090000	1	Electronic panel - Scheda elettronica
116	7084010000	1	Joint - Raccordo 1/8" con ogiva	173	7500430000	1	Stretch eliminator - Pressacavo M16x1,5
117	7180110000	1	Joint - Raccordo	174	5165970008	1	Angular - Angolare destro superiore
118	7562600010	1	Valve - Valvola a resca	175	5162990008	1	Support - Supporto destro cruscotto
119	7233200000	1	Hose - Tubo recupero olio	176	7070580000	1	Gasket - Guarnizione pannello portastrumenti
120	7196540000	1	Thermostatic valve kit - Kit valvola termostatica	177	5164530008	1	Support - Supporto sinistro cruscotto
130	5118000008	1	Compressor base - Base compressore	178	7155450000	1	Electric base - Base impianto elettrico
131	5162360008	1	Panel - Pannello intermedio superiore nero	179	7510660000	1	Transformer - Trasformatore
132	5165860008	1	Panel - Pannello intermedio inferiore nero	180	7564260000	1	Transformer - Trasformatore
133	7471319000	1	Electric board - Apparecchiatura elettrica 380-415V	180A	7564290000	1	Transformer - Trasformatore V460 60Hz
133A	7413300000	1	Electric board - Apparecchiatura elettrica 208-240V	181	7031010000	6	Washer - Rondella Ø8
133B	7413450000	1	Electric board - Apparecchiatura elettrica 460V	182	7020070000	6	Nut - Dado M8
134	7020070000	6	Nut - Dado M8	183	7433030000	1	Relay 380-415V compressor - Rele sequenza fasi compressore 380-415V KR
135	7031010000	6	Washer - Rondella Ø8	183A	7432770000	1	Relay 208-240V compressor - Rele sequenza fasi compressore 208-240V KR
136	5166070008	1	Fan conveyor - Convogliatore aria	183B	7433030000	1	Relay 440-480V / 60Hz compressor - Rele sequenza fasi compressore 440-480V / 60Hz KR
137	5160220008	1	Reduction - Riduttore ventola	184	7432290000	1	Contacto 380-460V compressor - Contattore compressore 380-460V K3
138	7030030000	6	Washer - Rondella Ø8	184A	7432310000	1	Contacto 208-240V compressor - Contattore compressore 208-240V K3
139	7081100000	6	Screw - Vite TE M8x25	185	7432310000	1	Contacto 380-460V compressor - Contattore compressore 380-460V K1-K2
140	7111040000	1	Pressure gauge - Manometro	185A	7432400000	1	Contacto 208-240V compressor - Contattore compressore 208-240V K1-K2
141	5165960008	1	Angular - Angolare posteriore superiore	186	7432480000	1	Thermal relay V400/50Hz-V460/60Hz compressor - Rele termico compressore V400/50Hz-V460/60Hz F1
142	7030560000	30	Washer - Rondella Ø5x20	186A	7432850000	1	Thermal relay 230V compressor - Rele termico compressore 230V F1
143	5165980008	1	Angular - Angolare destro inferiore	187	7432780000	2	Contact - Contatti ausiliari
144	7080800000	1	Joint - Raccordo a "L" 1/8"x6	188	7432720000	1	Fuse - Fusibile 1A ritardato
145	7012240000	80	Screw - Vite M5x15	188A	7436070000	1	Fuse - Fusibile 6,3x32 1A ritardato

VALID FROM 18/10/2004 - VALIDO DAL 18/10/2004 (REV.04.L.04)



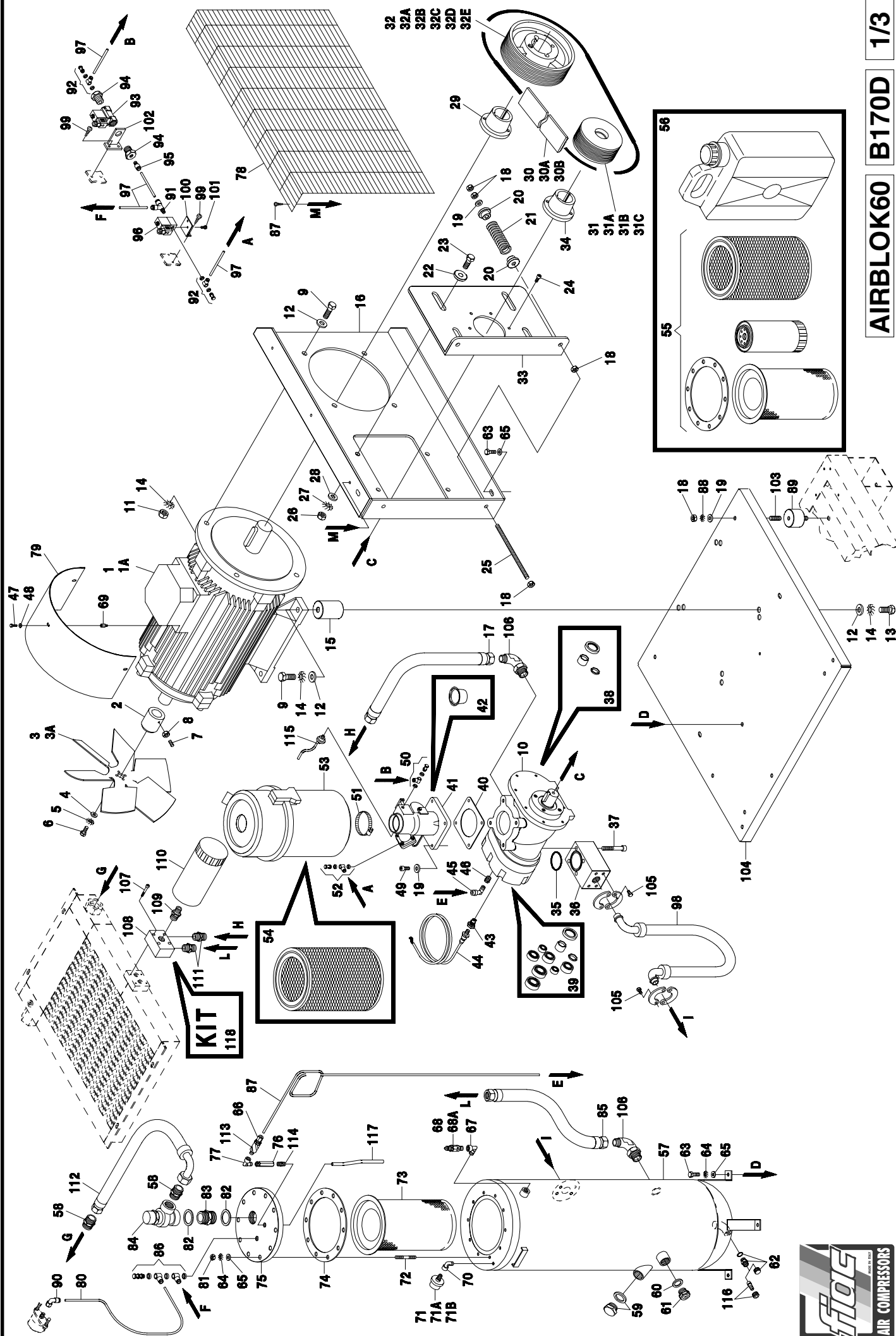
[illegible]





AIRBLOK60	8 BAR	B170D	1/3
AIRBLOK60	10 BAR	B170D	1/3
AIRBLOK60	13 BAR	B170D	1/3

DESCRIPTION DESCRIZIONE				VALID FROM 16/04/2004 - VALIDO DAL 16/04/2004 (REV.03.D.04)			
REF. RIF.	CODE CODICE	QT QT	DESCRIPTION DESCRIZIONE	REF. RIF.	CODE CODICE	QT QT	DESCRIPTION DESCRIZIONE
1	7385000000	1	Electric motor 400V compressor - Motore elettrico compressore 400V	40	7079630000	1	Gasket - Guarnizione valvola di aspirazione
1A	7383760000	1	Electric motor 230V compressor - Motore elettrico compressore 230V	41	7195860000	1	Suction valve - Valvola di aspirazione
2	7583450000	1	Fan connection - Mozzo ventola	42	7082600000	1	Suction valve maintenance kit (See kit assembling table) - Kit manutenzione valvola di aspirazione (Vedi tavola assemblaggio kit)
3	720011500	1	Fan - Ventola 50Hz	43	7085940000	1	Joint - Riduzione
3A	7201350000	1	Fan - Ventola 60Hz	44	4111800000	1	Sensor - Sensore temperatura
4	7030030000	4	Washer - Rondella Ø8	45	7080200000	1	Joint - Raccordo "L" 1/8" con ogiva
5	7031010000	4	Toothed washer - Rondella dentata Ø8	46	7085180000	1	Joint - Riduzione
6	7011090000	4	Screw - Vite TE M8x20	47	7011480000	3	Screw - Vite TE M6x12
7	7014190000	1	Screw - Vite STEI M8x30	48	7030190000	3	Washer - Rondella Ø6x18
8	7020070000	1	Nut - Dado M8	49	7010400000	4	Screw - Vite TCCE M12x40
9	7011660000	8	Screw - Vite TE M18x50	50	7080890000	2	Joint - Raccordo "L" 1/4"x6
10	7423230000	1	Air end - Vite completa B170D	51	7043011500	2	Clamp - Fascetta
11	7020140000	4	Nut - Dado M18	52	7080780000	1	Joint - Raccordo "L" 1/8"x6
12	7030610000	12	Washer - Rondella Ø18	53	7212050000	1	Air filter - Filtro aria
13	7012800000	6	Screw - Vite TE M18x30	54	7212050010	1	Air filter cartridge - Cartuccia filtro aria
14	7030600000	12	Toothed washer - Rondella dentata Ø18	55	4094250000	1	Filters kit - Kit filtri
15	7172140000	4	Support - Supporto motore	56	4094220000	1	Maintenance kit - Kit manutenzione
16	7510790000	1	Support - Piastra trasmissione motore	57	7473420000	1	Separator tank - Serbatoio separatore
17	7234020000	1	Hose - Tubo iniezione	58	7081011300	2	Joint - Nipplo 1"1/4
18	7020100000	14	Nut - Dado M12	59	7090490000	1	Plug - Tappo 1" con rondella
19	7030140000	14	Washer - Rondella Ø12	60	7030460000	1	Washer - Rondella
20	7459440000	4	Guide - Guida molla	61	7180140000	1	Oil level sight glass - Spia livello olio
21	7160280000	2	Tensioning spring - Molla tensionatore	62	7562600000	1	Relief valve - Scaricatore olio 1/2"
22	7459430000	4	Guide - Guida piastra	63	7011160000	15	Screw - Vite TE M10x30
23	7011620000	4	Screw - Vite TE M16x35	64	7030360000	4	Toothed washer - Rondella dentata Ø10
24	7010050000	6	Screw - Vite TCCE M8x20	65	7030040000	15	Washer - Rondella Ø10
25	7018650000	2	Screw bolt - Perno tenditore	66	7084010000	1	Joint - Raccordo 1/8" con ogiva
26	7024200000	4	Nut - Dado M16	67	7080040000	1	Joint - Raccordo "L" 3/4" MF
27	7030490000	4	Toothed washer - Rondella dentata Ø16	68	7192110000	1	Safety valve - Valvola di sicurezza 3/4" (10,4bar)
28	7030730000	4	Washer - Rondella Ø16	68A	7192800000	1	Safety valve - Valvola di sicurezza 3/4" (14bar)
29	7583100000	1	Connection - Mozzo	69	7018620000	3	Spacer - Distanziale M6x35
30	7371380000	1	Belt - Cinghia (8bar)	70	7080870000	1	Joint - Raccordo "L" 1/8" MF
30A	7370840000	1	Belt - Cinghia (10bar)	71	7250700000	1	Pressure switch for separator filter clogging - Pressostato intasamento filtro disoleatore (8 bar)
30B	7371470000	1	Belt - Cinghia (13bar)	71A	7250710000	1	Pressure switch for separator filter clogging - Pressostato intasamento filtro disoleatore (10 bar)
31	7407140000	1	Pulley - Puleggia vite Øp193 (8bar 50Hz)	71B	7250750000	1	Pressure switch for separator filter clogging - Pressostato intasamento filtro disoleatore (13 bar)
31A	7407200000	1	Pulley - Puleggia vite Øp173 (10bar 50Hz)	72	7015380000	10	Screw - Vite STEI M12x60
31B	7407180000	1	Pulley - Puleggia vite Øp153 (13bar 50Hz)	73	7211410000	1	Separator cardridge - Filtro disoleatore
31C	7407160000	1	Pulley - Puleggia vite Øp153 (8bar 60Hz)	74	7079650000	1	Gasket - Guarnizione
31D	7407200000	1	Pulley - Puleggia vite Øp173 (10bar 60Hz)	75	5158790008	1	Cover - Coperchio disoleatore
31E	7407210000	1	Pulley - Puleggia vite Øp132 (13bar 60Hz)	76	7191010000	1	Valve - Valvola flusso unidirezionale
32	7407170000	1	Pulley - Puleggia motore Øp 125 (8-10-13bar 50Hz - 8bar 60Hz)	77	7080180000	1	Joint - Raccordo "L" 1/4" MF
32A	7407180000	1	Pulley - Puleggia motore Øp 153 (10bar 60Hz)	78	7240490000	1	Belt guard - Paracinghia
32B	7407210000	1	Pulley - Puleggia motore Øp 132 (13bar 60Hz)	79	5166050008	1	Conveyor - Convogliatore
33	7511240000	1	Plate - Piastra	80	7230010000	1	Rilsan hose - Tubo Rilsan nero
34	7583021400	1	Connection - Mozzo	81	7020080000	10	Nut - Dado M10
35	7070650000	1	Or - Or flangia di mandata	82	7090460000	2	Washer - Rondella 1"
36	7488290000	1	Delivery flange - Flangia di mandata	83	7081700000	1	Joint - Nipplo 1"1/4x1"
37	7010610000	4	Screw - Vite TCCE M12x60	84	7196300000	1	Minimum pressure valve - Valvola di minima pressione
38	4094540000	1	Oil seal kit (See kit assembling table) - Kit paraolio (Vedi tavola assemblaggio kit)	85	7231330000	1	Hose - Tubo pescaggio olio
39	4094550000	1	Bearings kit+Oil seal kit (See kit assembling table) - Kit cuscinetti+Kit paraolio (Vedi tavola assemblaggio kit)	86	4093270000	1	Joint - Raccordo ad asta 1/4"

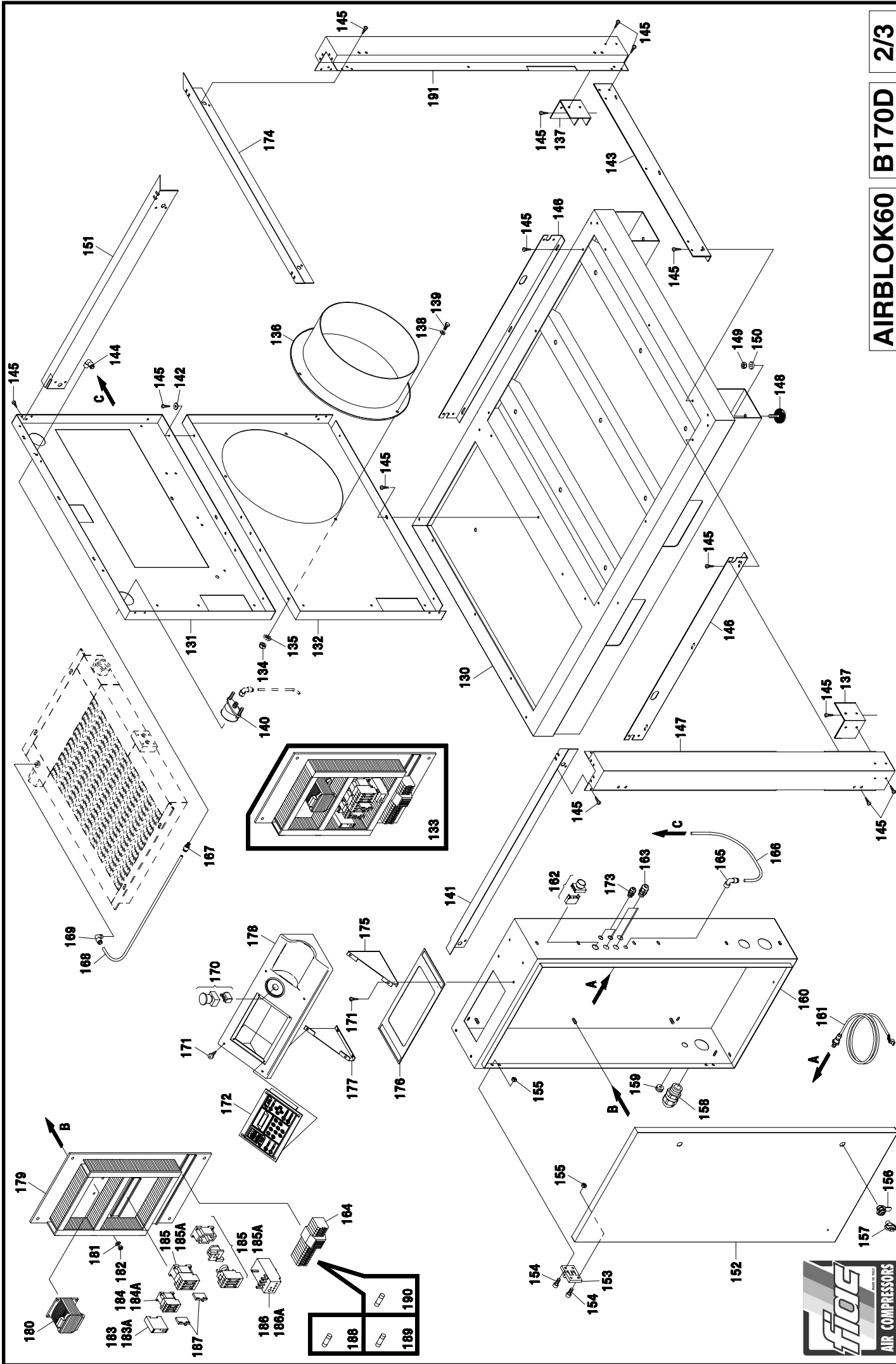




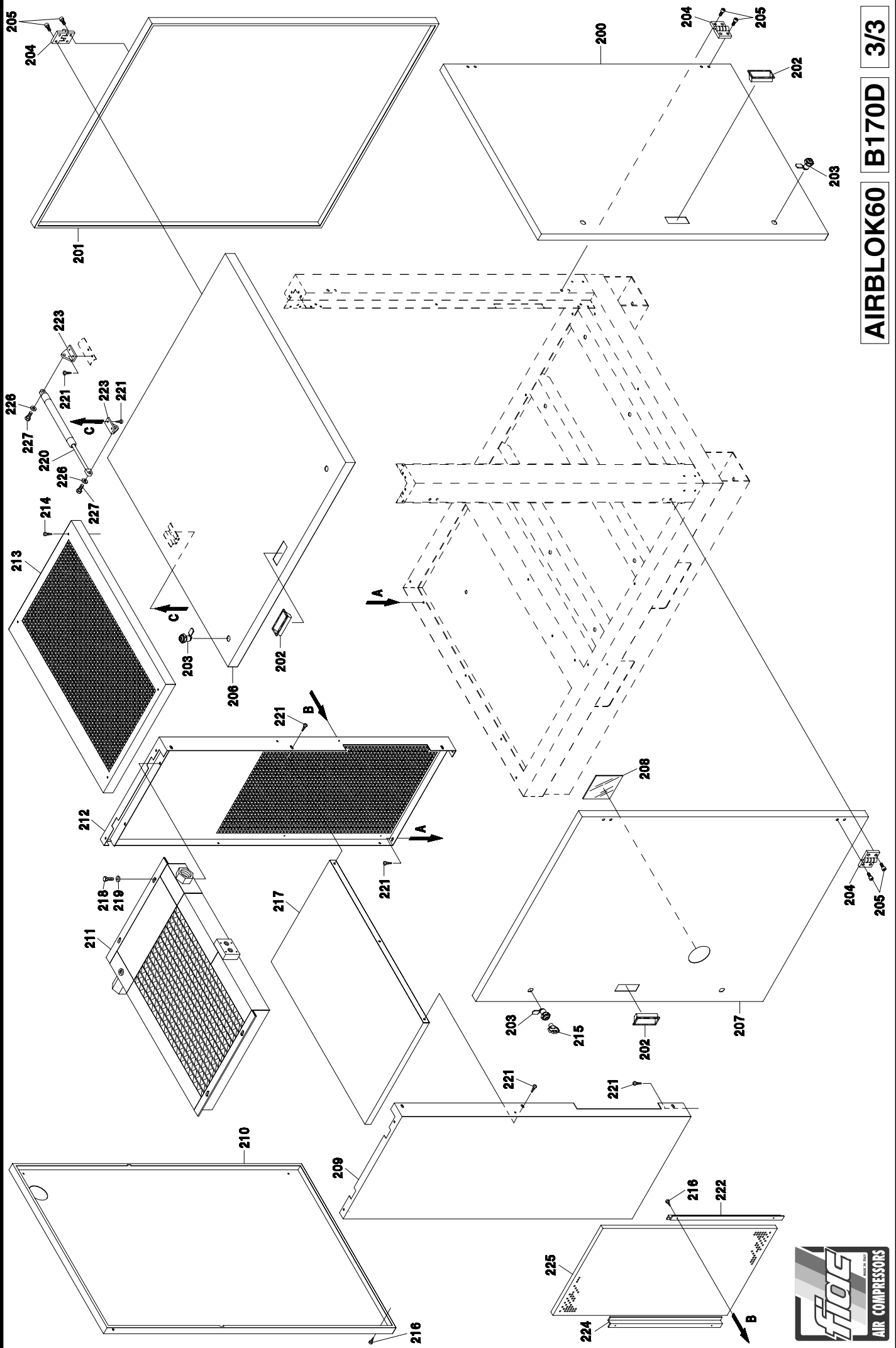
AIRBLOK60	8 BAR	B170D	2/3
AIRBLOK60	10 BAR	B170D	2/3
AIRBLOK60	13 BAR	B170D	2/3

DESCRIPTION DESCRIZIONE				DESCRIPTION DESCRIZIONE			
REF. RIF.	CODE CODICE	QT QT		REF. RIF.	CODE CODICE	QT QT	
87	7239140000	1	Hose - Tubo recupero olio	148	7360340000	4	Shock absorber - Antivibranti
88	7030750000	6	Toothed washer - Rondella dentata Ø12	149	7020080000	4	Nut - Dado M10
89	7364530000	6	Shock absorbe - Antivibranti	150	7030040000	4	Washer - Rondella Ø10
90	7080780000	1	Joint - Raccordo "L"	151	5165950008	1	Angular - Angolare superiore anteriore
91	7082300000	1	Joint - Raccordo "L" 1/4"x8	152	5165930008	1	Panel - Sportello cassetta elettrica
92	7080810000	2	Joint - Raccordo "L" 1/4"x8	153	7018590000	2	Hinge - Cerniera
93	7194330000	1	Solenoid valve - Elettrovalvola	154	7014140000	8	Screw - Vite T.E. M6x22
94	7085600000	2	Joint - Raccordo 1/2" 1/4" MF	155	7020060000	8	Nut - Dado M6
95	7084220000	1	Joint - Raccordo diritto 1/4"x6	156	7458640000	2	Key hole - Serratura
96	7194340000	1	Solenoid valve - Elettrovalvola	157	7458650000	1	Key - Chiave
97	7230010000	1	Rilsan hose - Tubo Rilsan	158	7500410000	1	Stretch eliminator - Pressacavo M40x1,5
98	7232820000	1	Hose - Tubo mandata	159	7090440000	1	Plug - Tappo M20x1,5
99	7012290000	4	Screw - Vite T.C. M5x20	160	5165920008	1	Electric box - Cassetta elettrica
100	7155700008	1	Support - Staffa	161	4111810000	1	Pressure sensor - Sensore di pressione
101	7011480000	2	Screw - Vite TE M6x12	162	7300230000	1	RESET Push-button - Pulsante RESET
102	5160860008	1	Support - Staffa	163	7500440000	1	Stretch eliminator - Pressacavo M20x1,5
103	7016220000	6	Screw - Vite S.T.E.I. M12x30	164	7432760000	1	Fuse carrier - Portafusibili
104	5165850008	1	Base - Base	165	7080800000	1	Joint - Raccordo a "L" 1/8"x6
105	7011270000	4	Screw - Vite TE M12x30	166	7230010000	1	Rilsan hose - Tubo Rilsan Ø6
106	7084650000	2	Joint - Raccordo "L" 3/4"	167	7084310000	1	Joint - Raccordo diritto 1/8"x6 con ogiva
107	7010520000	4	Screw - Vite T.C.C.E. M6x55	168	7239130000	1	Hose - Tubo rame aria
108	7195810000	1	Thermostatic - Termostatica	169	7080800000	1	Joint - Raccordo "L" 1/2"
109	7081390000	1	Joint - Nipplo 3/4"	170	7300080000	1	Emergency push-button - Interruttore a fungo
110	7211131500	1	Oil filter - Filtro olio	171	7012240000	4	Screw - Vite TC M5x15
111	7081120000	2	Joint - Nipplo 3/4"	172	7433090000	1	Electronic panel - Scheda elettronica
112	7236270000	1	Hose - Tubo mandata aria 1"1/4	173	7500430000	1	Stretch eliminator - Pressacavo M16x1,5
113	7180110000	1	Joint - Raccordo	174	5165970008	1	Angular - Angolare destro superiore
114	7081140000	1	Joint - Nipplo 1/4"	175	5162990008	1	Support - Supporto destro cruscotto
115	7564020000	1	Device for air filter clogging - Dispositivo intasamento filtro aria	176	7070580000	1	Gasket - Guarnizione pannello portastrumenti
116	7562600010	1	Relief valve - Scaricatore olio 1/2"	177	5164530008	1	Support - Supporto sinistro cruscotto
117	7233450000	1	Hose - Tubo recupero olio	178	7155450000	1	Dashboard - Pannello portastrumenti
118	7196540000	1	Thermostatic valve kit - Kit valvola termostatica	179	7510660000	1	Electric base - Base impianto elettrico
130	5118000008	1	Compressor base - Base compressore	180	7564260000	1	Transformer - Trasformatore
131	5162360008	1	Panel - Pannello intermedio superiore nero	181	7031010000	6	Washer - Rondella Ø8
132	5165860008	1	Panel - Pannello intermedio inferiore nero	182	7020070000	6	Nut - Dado M8
133	7413290000	1	Electric board - Apparecchiatura elettrica	183	7433030000	1	Relay 400V compressor - Rele sequenza fasi compressore 400V KR
134	7020070000	3	Nut - Dado M8	184	7432770000	1	Relay 230V compressor - Rele sequenza fasi compressore 230V KR
135	7031010000	3	Washer - Rondella Ø8	184A	7432300000	1	Contacto 400V compressor - Contattore compressore 400V K3
136	7583190000	1	Fan conveyor - Convogliatore aria	184A	7432400000	1	Contacto 230V compressor - Contattore compressore 230V K3
137	5166080000	2	Support - Supporto montanti	185	7432390000	1	Contacto 400V compressor - Contattore compressore 400V K1-K2
138	7030030000	3	Washer - Rondella Ø8	185A	7432840000	1	Contacto 230V compressor - Contattore compressore 230V K1-K2
139	7081100000	3	Screw - Vite TE M8x25	186	7432480000	1	Thermal relay 400V compressor - Rele termico compressore 400V F1
140	7111040000	1	Pressure gauge - Manometro	186A	7432580000	1	Thermal relay 230V compressor - Rele termico compressore 230V F1
141	5165960008	1	Angular - Angolare posteriore superiore	187	7432840000	2	Contact - Contatti ausiliari
142	7030560000	30	Washer - Rondella Ø5x20	188	7432720000	1	Fuse - Fusibile 1A ritardato
143	5165980008	1	Angular - Angolare destro inferiore	189	7431640000	1	Fuse - Fusibile 1A rapido
144	7080800000	1	Joint - Raccordo a "L" 1/8"x6	190	7432730000	1	Fuse - Fusibile 630mA ritardato
145	7012240000	80	Screw - Vite M5x15	191	5166350008	1	Column - Montante destro posteriore
146	5165940008	2	Angular - Angolare inferiore anteriore/posteriore				
147	5166040008	1	Column - Montante destro anteriore				

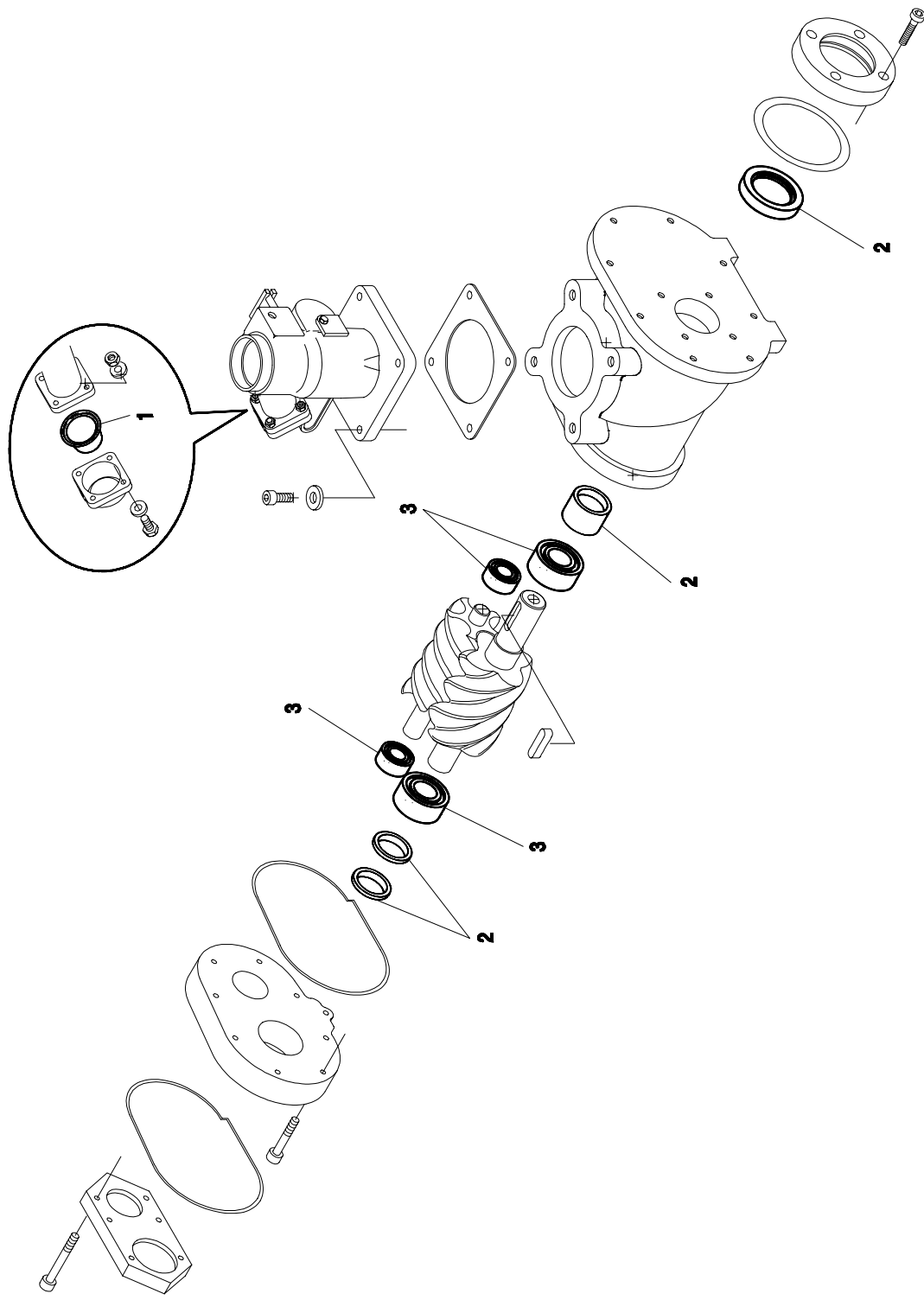
VALID FROM 16/04/2004 - VALIDO DAL 16/04/2004 (REV.03.D.04)



[illegible]



REF. R/F.	CODE CODICE	DESCRIPTION DESCRIZIONE
1	7082600000	Suction valve kit - Kit valvola di aspirazione
2	4094540000	Oil seal kit - Kit paraolio
3+2	4094550000	Oil seal kit+bearings kit - Kit paraolio+kit cuscinetti



B170D

MAINTENANCE SCHEDULE

COMPRESSOR MODEL _____

SERIAL NO _____

[illegible]

